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PCS Special:	19 November 2025
UPPSC	
1.	World No. 1 Alcaraz out of Davis Cup finale with injury दुनिया के नंबर 1 अल्काराज़ चोट के कारण डेविस कप फ़ाइनल से बाहर

UPPSC	19/11/2025
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UNFORTUNATE

World No. 1 Alcaraz out of Davis Cup finale with injury



PCS

Spain's World No. 1 Carlos Alcaraz will miss the Davis Cup Final 8 tournament in Italy this week due to injury, he announced on X on Tuesday. "I am very sorry to announce that I will not be able to play for Spain in the Davis Cup in Bologna. I have swelling in my right hamstring, and the medical advice is not to play," Alcaraz said.

AFI

World No. 1 Alcaraz out of Davis Cup finale with injury

दुनिया के नंबर 1 अल्काराज़ चोट के कारण डेविस कप फ़ाइनल से बाहर

- Spain's **World No. 1 Carlos Alcaraz** will miss the **Davis Cup Final 8 tournament** in Italy this week due to injury, he announced on X on Tuesday. स्पेन के **दुनिया के नंबर 1 कार्लोस अल्काराज़** इस सप्ताह इटली में होने वाले **डेविस कप फ़ाइनल 8 टूर्नामेंट** में चोट के कारण हिस्सा नहीं ले पाएंगे, यह घोषणा उन्होंने मंगलवार को X पर की।
- "I am very sorry to announce that I will not be able to play for Spain in the Davis Cup in Bologna. I have swelling in my **right hamstring**, and the medical advice is not to play," Alcaraz said. "मुझे यह बताते हुए बहुत दुख हो रहा है कि मैं बोलोनिया में डेविस कप में स्पेन के लिए नहीं खेल पाऊँगा। मेरी **दाई हैमस्ट्रिंग** में सूजन है और डॉक्टरों ने खेलने से मना किया है," अल्काराज़ ने कहा।

Geography	19/11/2025
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Childhood, interrupted



GS I: Geography: Mapping

Innocence endures: Displaced girls from El Fasher sit on the ground with toys in their hands, in a displacement camp in Al-Dabbah in Sudan. El Fasher, the last army stronghold in Darfur, fell to the paramilitary Rapid Support Forces (RSF) last month. REUTERS



Innocence endures: Displaced girls from El Fasher sit on the ground with toys in their hands, in a displacement camp in Al-Dabbah in Sudan. El Fasher, the last army stronghold in Darfur, fell to the paramilitary Rapid Support Forces (RSF) last month. REUTERS

GS Paper II: Polity, Governance, And International Relations	
TOPICS COVERED	19 November 2025
	Polity
1.	What can local bodies expect from the 16th FC? स्थानीय निकाय 16वें वित्त आयोग से क्या उम्मीद कर सकते हैं
2.	Modified UDAN proposed at ₹30,000 crore संशोधित UDAAN ₹30,000 करोड़ पर प्रस्तावित
	Governance
3.	Over 100 Indian universities make it to QS sustainability rankings 100 से अधिक भारतीय विश्वविद्यालय QS सस्टेनेबिलिटी रैंकिंग में शामिल
	International Relations
4.	On Bangladesh's extradition request for Hasina, New Delhi has several options it can exercise हसीना के प्रत्यर्पण अनुरोध पर बांग्लादेश को लेकर नई दिल्ली के पास कई विकल्प मौजूद हैं
5.	UNSC approves Trump's plan for the future of Gaza गाज़ा के भविष्य के लिए ट्रम्प की योजना को UNSC की मंजूरी

Polity	19/11/2025
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What can local bodies expect from the 16th FC?

What do the 73rd and 74th constitutional amendments mandate? What have multiple State Finance Commission reports recommended? How have Union Finance Commissions failed to bring about substantial changes, especially with respect to performance-linked grants?

GS II: Polity

MOB

EXPLAINER

V. N. Alok

The story so far:

In November 17, the 16th Finance Commission (FC) submitted its report to the President of India.

What are the expectations?

Main expectations include a percentage share for vertical transfer of resources from the Central revenue pool to the States for the next five years and the formula of its horizontal distribution among States. This is mandated under Article 280 of the Constitution.

What about panchayats, municipalities?

The other expectation is the recommendation to improve the finances of panchayats and municipalities as mandated under Article 280 (3) bb and c. Like many other federations, local governments are the ones rendering essential public services, including drinking water, sanitation, public health, rural roads, maintenance of community assets etc. For this purpose, panchayats and municipalities are mandated to collect certain taxes like property tax, advertisement tax and non-taxes such as market fee, toll etc. However, a huge gap between revenues and expenditure responsibilities can be seen across States and Union Territories (UTs).

As per the 73rd and 74th constitutional amendments, State governments have the power to assign revenue handles and expenditure responsibilities to various rungs of panchayats and levels of municipalities. Due to this reason, there is a wide variation in fiscal powers of panchayats, municipalities across States.

In an ideal scenario, functional responsibilities should be closely linked to the financial powers delegated to local governments. However, there is no separate list for either functional responsibilities or revenue handles that



A major revamp: Collector S. Saravanan taking part in a gram sabha meeting held at Adiyanothu panchayat near Dindigul, Tamil Nadu, on October 11. HARTHIKEYAN. G

should be assigned to panchayats and municipalities. While the 11th and 12th Schedules enumerate on 29 broad subjects for panchayats and 18 matters for municipalities respectively, they are merely illustrative and not binding. Moreover, it is the Union and State governments that are expected to design vertical schemes on economic development and social justice, while local governments implement them.

State governments tend to assign responsibilities to local governments without concomitant revenue handles or officials. As a result, panchayats and municipalities bear the financial brunt which not only affects their development but operational efficiency as well.

What is the role of the SFC?

Every five years, States constitute a State Finance Commission (SFC) which can make recommendations to State legislature. The recommended

devolutions by SFC could be, *inter alia*, that panchayats and municipalities should have a share in the revenue pool of the State; be assigned revenue handles; receive both conditional and unconditional grants-in-aid; that local governments be assigned civic functions and functionaries; and various other administrative measures. More than a hundred SFC reports have been submitted across States, but hardly a few have been respected.

In such a situation, the local government must count entirely on fiscal transfers from the Union government. For this purpose, the Constitution mandates the Union Finance Commission (UFC) to suggest measures to augment State finances for local governments.

What did the previous UFCs do?

So far, recommendations of six UFCs have been implemented. However, they weren't able to quantify the resource

requirements of local governments, and made ad hoc arrangements and recommended lump sum grants. The 13th UFC, however, suggested calculating the grant as a percentage share in the union tax divisible pool. The 13th UFC did this consciously after a round of consultations with top legal experts and at the demand of the Union Ministry and several State governments. Neutrality to inflation was the first advantage of the proposal and share of local government in high buoyancy of union tax proceeds was the second major benefit. Sadly, the subsequent UFC took a complete U-turn and recommended lump sum grants. The 15th UFC followed its immediate predecessor in its route of fiscal transfers to local governments. This was not the only discontinuity in the recommendations made by the three successive bodies. The other major anomaly was in the form of conditional grants. In their zeal to reform panchayat and municipal administration, all these UFCs divided the grants into two components – basic and performance-based. While basic grants were unconditional, performance grants were tied to certain conditions identified by these UFCs as reform instruments. However, each UFC ensured to discontinue the line of reform initiated by the previous UFC. To illustrate, the 13th UFC stipulated six conditions for performance grants. None of the conditions could be fulfilled by most States. The 14th UFC refused to acknowledge any merit in the previous reform agenda and recommended fresh conditional performance grants. The conditions put forth by the 15th UFC were again of a different variety.

The 16th UFC, it is expected, must have gone beyond the oft-beaten approach and assessed the resource requirements of 2.7 lakh panchayats and about 5,000 municipalities, which would enable them to act as institutions for economic development and social justice.

V. N. Alok is professor at the Indian Institute of Public Administration.

THE GIST

As per the 73rd and 74th constitutional amendments, State governments have the power to assign revenue handles and expenditure responsibilities to various rungs of panchayats and levels of municipalities.

Every five years, States constitute a State Finance Commission (SFC) which can make recommendations to State legislature.

So far, recommendations of six UFCs have been implemented. However, they weren't able to quantify the resource requirements of local governments, and made ad hoc arrangements and recommended lump sum grants.

What can local bodies expect from the 16th FC?

स्थानीय निकाय 16वें वित्त आयोग से क्या उम्मीद कर सकते हैं

- On November 17, the 16th Finance Commission (FC) submitted its report to the President of India. 17 नवंबर को, 16वीं वित्त आयोग (FC) ने अपनी रिपोर्ट भारत के राष्ट्रपति को सौंपी।
- What are the expectations? अपेक्षाएं क्या हैं?
- Main expectations include a percentage share for vertical transfer of resources from the Central revenue pool to the States for the next five years and the formula of its horizontal distribution among States. मुख्य अपेक्षाएं अगले पांच वर्षों के लिए केंद्रीय राजस्व पूल से राज्यों को संसाधनों के ऊर्ध्वार हस्तांतरण के लिए प्रतिशत हिस्सा और राज्यों के बीच इसके क्षैतिज वितरण का सूत्र शामिल हैं।
- This is mandated under Article 280 of the Constitution. यह संविधान के अनुच्छेद 280 के तहत अनिवार्य है।

What about panchayats, municipalities?

पंचायतों, नगरपालिकाओं के बारे में क्या?

- The other expectation is the recommendation to improve the finances of panchayats and municipalities as mandated under Article 280 (3) bb and c. दूसरी अपेक्षा अनुच्छेद 280 (3) bb और c के तहत अनिवार्य पंचायतों और नगरपालिकाओं के वित्त को सुधारने की सिफारिश है।



- Like many other federations, local governments are the ones rendering essential public services, including **drinking water, sanitation, public health, rural roads, maintenance of community assets etc.** कई अन्य संघों की तरह, स्थानीय सरकारें आवश्यक सार्वजनिक सेवाएं प्रदान करने वाली हैं, जिनमें पेयजल, स्वच्छता, सार्वजनिक स्वास्थ्य, ग्रामीण सड़कें, समुदाय संपत्तियों का रखरखाव आदि शामिल हैं।
- For this purpose, **panchayats and municipalities are mandated to collect certain taxes like property tax, advertisement tax and non-taxes such as market fee, toll etc.** इस उद्देश्य के लिए, पंचायतों और नगरपालिकाओं को संपत्ति कर, विज्ञापन कर जैसे कुछ कर और बाजार शुल्क, टोल आदि जैसे गैर-कर एकत्र करने का आदेश दिया गया है।
- However, a huge gap between revenues and expenditure responsibilities can be seen across States and Union Territories (UTs). हालांकि, राज्यों और केंद्र शासित प्रदेशों (UTs) में राजस्व और व्यय जिम्मेदारियों के बीच एक बड़ा अंतर देखा जा सकता है।
- As per the 73rd and 74th constitutional amendments, **State governments have the power to assign revenue handles and expenditure responsibilities to various rungs of panchayats and levels of municipalities.** 73वीं और 74वीं संवैधानिक संशोधनों के अनुसार, राज्य सरकारों के पास पंचायतों के विभिन्न स्तरों और नगरपालिकाओं के स्तरों को राजस्व हैंडल और व्यय जिम्मेदारियां सौंपने की शक्ति है।
- Due to this reason, there is a wide variation in fiscal powers of panchayats, municipalities across States. इस कारण से, राज्यों में पंचायतों, नगरपालिकाओं की वित्तीय शक्तियों में व्यापक विविधता है।
- In an ideal scenario, **functional responsibilities should be closely linked to the financial powers delegated to local governments.** आदर्श परिदृश्य में, कार्यात्मक जिम्मेदारियां स्थानीय सरकारों को सौंपी गई वित्तीय शक्तियों से निकटता से जुड़ी होनी चाहिए।
- However, there is no separate list for either functional responsibilities or revenue handles that should be assigned to panchayats and municipalities. हालांकि, पंचायतों और नगरपालिकाओं को सौंपे जाने वाले कार्यात्मक जिम्मेदारियों या राजस्व हैंडल के लिए कोई अलग सूची नहीं है।
- While the 11th and 12th Schedules enumerate on 29 broad subjects for panchayats and 18 matters for municipalities respectively, they are merely illustrative and not binding. जबकि 11वीं और 12वीं अनुसूचियां क्रमशः पंचायतों के लिए 29 व्यापक विषयों और नगरपालिकाओं के लिए 18 मामलों का उल्लेख करती हैं, वे केवल उदाहरणात्मक हैं और बाध्यकारी नहीं।
- Moreover, it is the Union and State governments that are expected to design vertical schemes on economic development and social justice, while local governments implement them. इसके अलावा, संघ और राज्य सरकारों से अपेक्षित है कि वे आर्थिक विकास और सामाजिक न्याय पर ऊर्ध्वाधर योजनाएं डिजाइन करें, जबकि स्थानीय सरकारें उन्हें लागू करें।
- State governments tend to assign responsibilities to local governments without concomitant revenue handles or officials. राज्य सरकारें स्थानीय सरकारों को समानांतर राजस्व हैंडल या अधिकारियों के बिना जिम्मेदारियां सौंपने का रुझान रखती हैं।
- As a result, panchayats and municipalities bear the financial brunt which not only affects their **development but operational efficiency** as well. परिणामस्वरूप, पंचायतें और नगरपालिकाएं वित्तीय बोझ वहन करती हैं जो न केवल उनके विकास को प्रभावित करती है बल्कि परिचालन दक्षता को भी।



What is the role of the SFC?

SFC की भूमिका क्या है?

- Every five years, States constitute a State Finance Commission (SFC) which can make recommendations to State legislature. हर पांच वर्षों में, राज्य राज्य वित्त आयोग (SFC) का गठन करते हैं जो राज्य विधानमंडल को सिफारिशें कर सकता है।
- The recommended devolutions by SFC could be, inter alia, that panchayats and municipalities should have a share in the revenue pool of the State; be assigned



revenue handles; receive both **conditional and unconditional grants-in-aid**; that local governments be assigned civic functions and functionaries; and various other administrative measures. SFC द्वारा अनुशंसित हस्तांतरणों में, अन्य बातों के अलावा, पंचायतों और नगरपालिकाओं को राज्य के राजस्व पूल में हिस्सा होना चाहिए; राजस्व हैंडल सौंपे जाएं; सशर्त और असशर्त अनुदान प्राप्त हों; स्थानीय सरकारों को नागरिक कार्य और कार्मिक सौंपे जाएं; और विभिन्न अन्य प्रशासनिक उपाय।

- **More than a hundred SFC reports have been submitted across States, but hardly a few have been respected.** राज्यों में सौ से अधिक SFC रिपोर्टें प्रस्तुत की गई हैं, लेकिन मुश्किल से कुछ का सम्मान किया गया है।
- **In such a situation, the local government must count entirely on fiscal transfers from the Union government.** ऐसी स्थिति में, स्थानीय सरकार को पूरी तरह केंद्रीय सरकार से वित्तीय हस्तांतरणों पर निर्भर रहना पड़ता है।
- **For this purpose, the Constitution mandates the Union Finance Commission (UFC) to suggest measures to augment State finances for local governments.** इस उद्देश्य के लिए, संविधान संघ वित्त आयोग (UFC) को स्थानीय सरकारों के लिए राज्य वित्त को बढ़ाने के उपाय सुझाने का आदेश देता है।

What did the previous UFCs do?

पिछले UFCs ने क्या किया?

- **So far, recommendations of six UFCs have been implemented.** अब तक, छह UFCs की सिफारिशें लागू की गई हैं।
- **However, they weren't able to quantify the resource requirements of local governments, and made ad hoc arrangements and recommended lump sum grants.** हालांकि, वे स्थानीय सरकारों के संसाधन आवश्यकताओं को मात्रात्मक बनाने में सक्षम नहीं थे, और अस्थायी व्यवस्थाएं कीं और एकमुश्त अनुदान की सिफारिश की।
- **The 13th UFC, however, suggested calculating the grant as a percentage share in the union tax divisible pool.** हालांकि, 13वीं UFC ने अनुदान को संघ कर विभाज्य पूल में प्रतिशत हिस्से के रूप में गणना करने का सुझाव दिया।
- **The 13th UFC did this consciously after a round of consultations with top legal experts and at the demand of the Union Ministry and several State governments.** 13वीं UFC ने यह शीर्ष कानूनी विशेषज्ञों के साथ एक दौर की परामर्श के बाद और केंद्रीय मंत्रालय और कई राज्य सरकारों की मांग पर सचेत रूप से किया।
- **Neutrality to inflation was the first advantage of the proposal and share of local government in high buoyancy of union tax proceeds was the second major benefit.** मुद्रास्फीति के प्रति तटस्थता प्रस्ताव का पहला लाभ था और स्थानीय सरकार का संघ कर आय के उच्च उछाल में हिस्सा दूसरा प्रमुख लाभ था।
- **Sadly, the subsequent UFC took a complete U-turn and recommended lump sum grants.** दुखद रूप से, बाद की UFC ने पूर्ण यू-टर्न लिया और एकमुश्त अनुदान की सिफारिश की।
- **The 15th UFC followed its immediate predecessor in its route of fiscal transfers to local governments.** 15वीं UFC ने स्थानीय सरकारों को वित्तीय हस्तांतरण के मार्ग में अपने तत्काल पूर्ववर्ती का अनुसरण किया।
- **This was not the only discontinuity in the recommendations made by the three successive bodies.** यह तीन लगातार निकायों द्वारा की गई सिफारिशों में एकमात्र असंगति नहीं थी।
- **The other major anomaly was in the form of conditional grants.** दूसरी प्रमुख विसंगति सशर्त अनुदान के रूप में थी।
- **In their zeal to reform panchayat and municipal administration, all these UFCs divided the grants into two components — basic and performance-based.** पंचायत और नगरपालिका प्रशासन सुधारने के उत्साह में, सभी इन UFCs ने अनुदान को दो घटकों में विभाजित किया — मूलभूत और प्रदर्शन-आधारित।
- **While basic grants were unconditional, performance grants were tied to certain conditions identified by these UFCs as reform instruments.** जबकि मूलभूत अनुदान असशर्त थे, प्रदर्शन अनुदान इन UFCs द्वारा सुधार उपकरणों के रूप में पहचानी गई कुछ शर्तों से बंधे थे।
- **However, each UFC ensured to discontinue the line of reform initiated by the previous UFC.** हालांकि, प्रत्येक UFC ने पिछले UFC द्वारा शुरू की गई सुधार पंक्ति को बंद करने की सुनिश्चितता की।



- To illustrate, the 13th UFC stipulated six conditions for performance grants. उदाहरण के लिए, 13वीं UFC ने प्रदर्शन अनुदान के लिए छह शर्तें निर्धारित कीं।
- None of the conditions could be fulfilled by most States. अधिकांश राज्यों द्वारा इनमें से कोई भी शर्त पूरी नहीं की जा सकी।
- The 14th UFC refused to acknowledge any merit in the previous reform agenda and recommended fresh conditional performance grants. 14वीं UFC ने पिछले सुधार एजेंडे में किसी भी योग्यता को स्वीकार करने से इनकार किया और ताजा सशर्त प्रदर्शन अनुदान की सिफारिश की।
- The conditions put forth by the 15th UFC were again of a different variety. 15वीं UFC द्वारा प्रस्तुत शर्तें फिर से एक अलग तरह की थीं।
- The 16th UFC, it is expected, must have gone beyond the oft-beaten approach and assessed the resource requirements of 2.7 lakh panchayats and about 5,000 municipalities, which would enable them to act as institutions for economic development and social justice. 16वीं UFC, अपेक्षा है, ने बार-बार पीटी गई दृष्टिकोण से आगे बढ़कर 2.7 लाख पंचायतों और लगभग 5,000 नगरपालिकाओं के संसाधन आवश्यकताओं का मूल्यांकन किया होगा, जो उन्हें आर्थिक विकास और सामाजिक न्याय के संस्थानों के रूप में कार्य करने में सक्षम बनाएगा।

Modified UDAN proposed at ₹30,000 crore

GS II: Polity: Government Role Scheme
NEW DELHI

The outlay for the modified UDAN (*Ude Desh Ka Aam Nagrik*) regional air connectivity scheme has been proposed at ₹30,000 crore, industry sources told *businessline*.

The proposal is intended to continue the scheme beyond April 2027 through an expanded UDAN framework.

On Monday, the Expenditure Finance Committee (EFC) of the Ministry of Finance met to review the proposal, sources added, noting that the committee is expected to take "a call on it soon".

The final policy draft would then be subject to the Union Cabinet's approval.

Of the proposed outlay of ₹30,000 crore, sources cited that ₹18,000 crore has been earmarked for new airport development, while the remaining ₹12,000 crore is intended for viability gap funding (VGF).

The scheme incentivises the creation of new air-

ports as well as the refurbishment and expansion of existing facilities.

Besides, airlines are supported to connect underserved regions by offering them VGF and a host of concessions provided by airport operators, the central, and State governments.

Sources added that the revised scheme or the expanded framework is expected to address earlier challenges and attract more private participation while enhancing air access to remote areas.

The original version of UDAN was launched in October 2016 with an initial tenure of 10 years under the National Civil Aviation Policy. The scheme was conceived to promote regional air connectivity by making flying affordable for the common citizen, the central idea being encouraging airlines to operate flights on regional and remote routes through enabling policies and extending incentives.

The first UDAN flight was inaugurated by Prime Minister Narendra Modi in



The modified scheme will support helipads and smaller airports in hilly areas.

April 2017 between Shimla and Delhi. The maiden UDAN scheme had been provided with a support of over ₹8,000 crore.

However, the scheme still faces challenges with 649 of the 915 valid routes having been operationalised under the scheme. These routes have connected 92 unserved and underserved airports, including 15 heliports and 2 water aerodromes across the country. A number of these airports remained unserved.

The Centre has accordingly devised the next tranche of the scheme. The proposal for the modified

scheme was announced in the Union Budget 2025-26 by Finance Minister Nirmala Sitharaman.

The new version aims to connect 120 additional destinations and enable the travel of four crore passengers over the next decade.

In addition, the scheme will support helipads and smaller airports in hilly areas, as well as aspirational and North-Eastern districts. Earlier this year, Civil Aviation Minister Ram Mohan Naidu told *businessline* that the modified UDAN scheme is a "major move on the part of the Centre to give a continued boost to the civil aviation sector in the country."

Additionally, he had said the extension proposal, as put forward by the Ministry of Civil Aviation (MoCA), was based on an assessment of the need for continued support to operationalise and build more airports, water aerodromes, and helipads, besides aiding airlines in reaching far-flung areas with no air services.

The modified scheme will bridge the gaps and de-

lays in the development of airports because of land unavailability, technical and operational constraints at certain airports and time taken in obtaining the relevant operators permit by new entrants. It will also address issues such as non-availability of suitable aircraft, aircraft leasing and maintenance.

The scheme operates under a market-driven model that allows airlines to assess passenger demand and propose routes during bidding rounds.

Official figures from last month, showed that the Centre has disbursed more than ₹4,300 crore as VGF along with an investment of ₹4,638 crore in airport development under regional air connectivity scheme. Under the scheme, 649 routes have been operationalised connecting 93 unserved and underserved airports, including 15 heliports and 2 water aerodromes, facilitating over 1.56 crore passengers through 3.23 lakh UDAN flights.

(The writer is with *The Hindu businessline*)

Modified UDAN proposed at ₹30,000 crore

संशोधित UDAN ₹30,000 करोड़ पर प्रस्तावित

- The outlay for the **modified UDAN (Ude Desh Ka Aam Nagrik)** regional air connectivity scheme has been proposed at **₹30,000 crore**, industry sources told *businessline*.
संशोधित UDAN (उड़े देश का आम नागरिक) क्षेत्रीय वायु संपर्क योजना के लिए **₹30,000 करोड़** का प्रावधान प्रस्तावित किया गया है, यह उद्योग सूत्रों ने बिज़नेसलाइन को बताया।



- The proposal is intended to **continue the scheme beyond April 2027** through an **expanded UDAN framework**.
यह प्रस्ताव **अप्रैल 2027** के बाद भी इस योजना को **विस्तारित UDAN ढांचे** के माध्यम से जारी रखने के उद्देश्य से है।
- On Monday, the **Expenditure Finance Committee (EFC)** of the Ministry of Finance met to review the proposal, sources added, noting that the committee is expected to take “a call on it soon”.
सोमवार को वित्त मंत्रालय की **व्यय वित्त समिति (EFC)** इस प्रस्ताव की समीक्षा के लिए मिली और सूत्रों के अनुसार वह “जल्द ही निर्णय” ले सकती है।
- The final policy draft would then be subject to the **Union Cabinet’s approval**.
अंतिम नीति मसौदा उसके बाद **केंद्रीय मंत्रिमंडल की मंजूरी** के लिए जाएगा।
- Of the proposed outlay of **₹30,000 crore**, sources cited that **₹18,000 crore** has been earmarked for **new airport development**, while the **remaining ₹12,000 crore is intended for viability gap funding (VGF)**.
प्रस्तावित **₹30,000 करोड़** में से **₹18,000 करोड़ नए हवाई अड्डों के विकास** के लिए और शेष **₹12,000 करोड़ वायबिलिटी गैप फंडिंग (VGF)** के लिए निर्धारित किया गया है।
- The **scheme incentivises the creation of new airports** as well as the **refurbishment and expansion of existing facilities**.
यह योजना नए हवाई अड्डों के निर्माण के साथ साथ **मौजूदा सुविधाओं के उन्नयन और विस्तार** को भी प्रोत्साहित करती है।
- Besides, **airlines are supported to connect underserved regions** by offering them VGF and concessions by airport operators, and central and State governments.
इसके अलावा, एयरलाइनों को **कम सेवा प्राप्त क्षेत्रों** से जोड़ने के लिए VGF और हवाई अड्डा संचालकों तथा केंद्र व राज्य सरकारों द्वारा दी जाने वाली रियायतें मिलती हैं।
- Sources added that the **revised scheme or expanded framework is expected to address earlier challenges and attract more private participation**, while enhancing air access to remote areas.
सूत्रों ने बताया कि **संशोधित योजना** पुराने चुनौतियों को दूर करने, अधिक **निजी भागीदारी** को आकर्षित करने और दूरस्थ क्षेत्रों तक हवाई पहुंच बढ़ाने की उम्मीद रखती है।
- The **original version of UDAN was launched in October 2016 with an initial tenure of 10 years under the National Civil Aviation Policy**.
UDAN का मूल संस्करण **अक्टूबर 2016** में राष्ट्रीय नागरिक उड्डयन नीति के अंतर्गत **10 वर्ष के कार्यकाल** के साथ शुरू किया गया था।
- The scheme was conceived to promote **regional air connectivity** by making flying **affordable** for the common citizen.
इस योजना का उद्देश्य आम नागरिक के लिए उड़ान को **सुलभ** बनाकर **क्षेत्रीय वायु संपर्क** को बढ़ावा देना था।
- The **first UDAN flight was inaugurated by Prime Minister Narendra Modi in April 2017 between Shimla and Delhi**.
पहली UDAN उड़ान का उद्घाटन **प्रधानमंत्री नरेंद्र मोदी** ने **अप्रैल 2017** में **शिमला-दिल्ली** मार्ग पर किया था।
- The maiden UDAN scheme had been provided with a support of **over ₹8,000 crore**.
प्रारंभिक UDAN योजना को **₹8,000 करोड़ से अधिक** का समर्थन दिया गया था।
- However, the **scheme still faces challenges with 649 of the 915 valid routes having been operationalised under the scheme**.
हालांकि, योजना को अभी भी चुनौतियों का सामना है क्योंकि कुल **915 वैध मार्गों में से 649** ही चालू हो पाए हैं।
- **These routes have connected 92 unserved and underserved airports, including 15 heliports and 2 water aerodromes across the country**.
इन मार्गों ने देशभर में **92 असर्विस्ड और अंडरसर्विस्ड हवाई अड्डों, 15 हेलिपोर्ट और 2 वाटर एरोड्रोम** को जोड़ा है।
- A number of these airports remained **unserved**.
इनमें से कई हवाई अड्डे अभी भी **असर्विस्ड** हैं।
- The Centre has accordingly devised the **next tranche** of the scheme.
केंद्र ने इसलिए योजना का **अगला चरण** तैयार किया है।



- The proposal for the modified scheme was announced in the **Union Budget 2025–26** by Finance Minister **Nirmala Sitharaman**.
संशोधित योजना का प्रस्ताव **केंद्रीय बजट 2025–26** में वित्त मंत्री **निर्मला सीतारमण** ने घोषित किया था।
- The new version aims to connect **120 additional destinations** and enable the travel of **four crore passengers** over the next decade.
नए संस्करण का लक्ष्य अगले दशक में **120 अतिरिक्त स्थानों** को जोड़ना और **चार करोड़ यात्रियों** की यात्रा सुविधा प्रदान करना है।
- In addition, the scheme will support **helipads and smaller airports in hilly areas, as well as aspirational and North-Eastern districts**.
इसके अलावा, यह योजना **पहाड़ी क्षेत्रों के हेलिपैड और छोटे हवाई अड्डों** तथा **आकांक्षी और पूर्वोत्तर जिलों** को भी समर्थन देगी।
- Earlier this year, **Civil Aviation Minister Ram Mohan Naidu** said that the modified UDAN scheme is a “major move” to boost the civil aviation sector.
इस वर्ष की शुरुआत में नागरिक उड्डयन मंत्री **राम मोहन नायडू** ने कहा था कि संशोधित UDAN योजना नागरिक उड्डयन क्षेत्र को बढ़ावा देने के लिए “महत्वपूर्ण कदम” है।
- He added that the extension proposal was based on the need to operationalise and build more **airports, water aerodromes, and helipads**, besides aiding airlines in reaching far-flung regions.
उन्होंने कहा कि यह विस्तार प्रस्ताव अधिक **हवाई अड्डे, वाटर एयरोड्रोम और हेलिपैड** विकसित करने तथा एयरलाइनों को दूरस्थ क्षेत्रों तक पहुंचाने की आवश्यकता पर आधारित है।
- The modified scheme will bridge gaps and delays caused by **land unavailability, technical and operational constraints**, and time taken in obtaining operators permits.
संशोधित योजना **भूमि की अनुपलब्धता, तकनीकी व परिचालन बाधाओं** और ऑपरेटर परमिट प्राप्ति में लगने वाले समय से पैदा हुई खाइयों और देरी को पाटेगी।
- It will also address issues such as **non-availability of suitable aircraft, aircraft leasing and maintenance**.
यह **उपयुक्त विमान की कमी, विमान लीजिंग और रखरखाव** जैसी समस्याओं को भी संबोधित करेगी।
- The scheme operates under a **market-driven model** that allows airlines to assess passenger demand and propose routes during bidding rounds.
यह योजना **बाजार-आधारित मॉडल** पर चलती है, जिसमें एयरलाइंस बोली प्रक्रिया के दौरान मांग के आधार पर मार्ग प्रस्तावित कर सकती हैं।
- Official figures showed that the Centre has disbursed **over ₹4,300 crore** as VGF and invested **₹4,638 crore** in airport development under UDAN.
आधिकारिक आंकड़ों के अनुसार केंद्र ने VGF के रूप में **₹4,300 करोड़ से अधिक** वितरित किए और हवाई अड्डा विकास में **₹4,638 करोड़** का निवेश किया।
- Under the scheme, **649 routes** have been operationalised connecting **93 unserved and underserved airports**, including **15 heliports and 2 water aerodromes**, facilitating **1.56 crore passengers** through **3.23 lakh UDAN flights**.
योजना के तहत **649 मार्ग** संचालित हुए, जिन्होंने **93 असर्विस्ड व अंडरसर्विस्ड हवाई अड्डों, 15 हेलिपोर्ट, 2 वाटर एयरोड्रोम** को जोड़ा और **3.23 लाख UDAN उड़ानों** के माध्यम से **1.56 करोड़ यात्रियों** को सुविधा प्रदान की।



Over 100 Indian universities make it to QS sustainability rankings

GS II: Governance

Abhinay Lakshman

NEW DELHI

The London-based QS Quacquarelli Symonds on Tuesday released its QS World University Rankings for Sustainability 2026, showing that India, with 103 universities, had the fourth-highest number of institutions in the list, behind the United States, China, and the United Kingdom.

The QS sustainability rankings, established in 2023, assess institutions across environmental and social sustainability categories such as environmental impact, social impact, and governance. These include indicators covering environmental research, sustainability, and education, along with equality, employability, knowledge exchange, and health and wellbeing.

Report card

India, with 103 universities, has the fourth-highest number of institutions on the list, behind the U.S., China, and the U.K.

- **Total Institutions Ranked:** ~2,000 from 100+ locations
- **Top university globally:** Lund University (Sweden)

TOP PERFORMERS IN INDIA

- **IIT Delhi:** 93rd in Employability & Outcomes
- **IIT Kharagpur:** 96th in Employability & Outcomes
- **Delhi University:** 94th in Knowledge Exchange



The rankings released on Tuesday showed institutions from the U.K., Canada, Sweden, and the U.S. dominating the top 15, with Lund University in Sweden taking the top position. This year's edition features close to 2,000 institutions from over 100 locations worldwide.

Of the 103 Indian universities featured, the Indian Institute of Technology,

Delhi was the best performing, placed at 205. Overall, QS noted that India had 12 universities in the top 500, matching the number for countries such as China and the Netherlands.

While this is IIT, Delhi's highest position in the sustainability rankings since their inception, it is lower in relative terms compared to its performance last year, when around 1,700

institutions were ranked. Among the top 15 Indian universities in this year's sustainability rankings, nine saw their positions drop from the previous year's. These included Jadavpur University, IIT, Kanpur, IIT, Madras, the Indian Institute of Science, and others.

Across the 103 Indian institutions ranked, 30 saw their positions decline, 32 improved, and 15 remained unchanged. At the indicator level, IIT, Delhi (93rd) and IIT, Kharagpur (96th) made it to the top 100 globally for Employability and Outcomes. The University of Delhi entered the top 100 for Knowledge Exchange, at 94.

In a statement, Jessica Turner, CEO of QS, said "Overall, Indian universities excel in knowledge exchange and environmental sustainability."

PATRIOTIC



Over 100 Indian universities make it to QS sustainability rankings 100 से अधिक भारतीय विश्वविद्यालय QS सस्टेनेबिलिटी रैंकिंग में शामिल

- The London-based **QS Quacquarelli Symonds** on Tuesday released its **QS World University Rankings for Sustainability 2026**, showing that India, with **103 universities**, had the **fourth-highest** number of institutions in the list, behind the United States, China, and the United Kingdom.
लंदन स्थित **QS क्वाक्वारेली सायमंड्स** ने मंगलवार को **QS वर्ल्ड यूनिवर्सिटी सस्टेनेबिलिटी रैंकिंग 2026** जारी की, जिसमें दिखाया गया कि **103 विश्वविद्यालयों** के साथ भारत सूची में **चौथे स्थान** पर है, अमेरिका, चीन और ब्रिटेन के बाद।
- The **QS sustainability rankings**, established in 2023, assess institutions across **environmental and social sustainability** categories such as environmental impact, social impact, and governance.
QS सस्टेनेबिलिटी रैंकिंग, जिसकी शुरुआत 2023 में हुई, विश्वविद्यालयों का मूल्यांकन **पर्यावरणीय और सामाजिक स्थिरता** की श्रेणियों में करती है, जैसे पर्यावरणीय प्रभाव, सामाजिक प्रभाव और सुशासन।
- These include indicators covering environmental research, sustainability, education, equality, employability, knowledge exchange, and health and wellbeing.
इसमें पर्यावरणीय शोध, स्थिरता, शिक्षा, समानता, रोजगार क्षमता, ज्ञान विनिमय, और स्वास्थ्य व कल्याण जैसे संकेतक शामिल हैं।
- The rankings released on Tuesday showed institutions from the **U.K., Canada, Sweden, and the U.S. dominating the top 15**, with **Lund University (Sweden)** taking the top position.
मंगलवार को जारी रैंकिंग में **यूके, कनाडा, स्वीडन और अमेरिका** के संस्थान शीर्ष 15 में हावी रहे, जबकि **स्वीडन की लुंड यूनिवर्सिटी** पहले स्थान पर रही।
- This year's edition features close to **2,000 institutions** from over **100 locations** worldwide.
इस वर्ष के संस्करण में विश्वभर के **100 से अधिक स्थानों** से लगभग **2,000 संस्थान** शामिल हैं।
- **Of the 103 Indian universities featured, the Indian Institute of Technology, Delhi (IIT Delhi) was the best performing, placed at 205.**
शामिल **103 भारतीय विश्वविद्यालयों** में, **आईआईटी दिल्ली** सर्वश्रेष्ठ प्रदर्शन करते हुए **205वें स्थान** पर रहा।
- Overall, QS noted that India had **12 universities in the top 500**, matching the number for countries such as China and the Netherlands.
कुल मिलाकर, QS ने बताया कि भारत की **12 विश्वविद्यालयें शीर्ष 500** में हैं, जो चीन और नीदरलैंड जैसे देशों के बराबर है।
- While this is IIT Delhi's **highest position** in the sustainability rankings since their inception, it is lower in relative terms compared to its performance last year, when around **1,700 institutions** were ranked.
सस्टेनेबिलिटी रैंकिंग शुरू होने के बाद से यह **आईआईटी दिल्ली की सर्वोच्च रैंकिंग** है, लेकिन पिछले वर्ष के मुकाबले यह अपेक्षाकृत कम है, जब लगभग **1,700 संस्थान** शामिल थे।
- Among the **top 15 Indian universities**, nine saw their positions **drop** from the previous year.
शीर्ष 15 भारतीय विश्वविद्यालयों में से नौ की रैंकिंग पिछले वर्ष की तुलना में गिरी।
- These included **Jadavpur University, IIT Kanpur, IIT Madras, the Indian Institute of Science**, and others.
इनमें **जादवपुर विश्वविद्यालय, आईआईटी कानपुर, आईआईटी मद्रास, इंडियन इंस्टीट्यूट ऑफ साइंस** और अन्य शामिल थे।
- Across the **103 Indian institutions** ranked, **30** saw their positions decline, **32** improved, and **15** remained unchanged.
103 भारतीय संस्थानों में से **30** की स्थिति गिरी, **32** में सुधार हुआ और **15** में कोई परिवर्तन नहीं हुआ।
- At the indicator level, **IIT Delhi (93rd)** and **IIT Kharagpur (96th)** made it to the **top 100 globally** for Employability and Outcomes.
संकेतक स्तर पर, **आईआईटी दिल्ली (93वां)** और **आईआईटी खड़गपुर (96वां)** रोजगार क्षमता और परिणामों में वैश्विक **शीर्ष 100** में शामिल रहे।
- The **University of Delhi** entered the **top 100** for **Knowledge Exchange**, at rank **94**.
दिल्ली विश्वविद्यालय ने **ज्ञान विनिमय** श्रेणी में **94वें स्थान** पर रहते हुए **शीर्ष 100** में स्थान बनाया।
- In a statement, **Jessica Turner**, CEO of QS, said "Overall, Indian universities excel in **knowledge exchange and environmental sustainability**."



QS की CEO **जेसिका टर्नर** ने कहा, “कुल मिलाकर, भारतीय विश्वविद्यालय **ज्ञान विनिमय** और **पर्यावरणीय स्थिरता** में उत्कृष्ट प्रदर्शन करते हैं।”

International Relations

19/11/2025

On Bangladesh's extradition request for Hasina, New Delhi has several options it can exercise

NEWS ANALYSIS

GS II: IR:
India-Bangladesh
NEW DELHI

As Bangladesh's National Security Adviser (NSA) Khalilur Rahman arrived in New Delhi on Tuesday, and Dhaka prepares a 'note verbale', the Indian government is considering its response to Bangladesh's demand for the extradition of its former Prime Minister Sheikh Hasina.

During his visit to Delhi, Mr. Rahman is expected to meet with India's NSA Ajit Doval and attend the Colombo Security Conclave, which includes India, Sri Lanka, the Maldives, Mauritius, and Bangladesh.

Officials and experts are clear that Ms. Hasina – who has lived in New Delhi since last August – is and

will remain an “honoured guest”. However, they also point out that according to the India-Bangladesh mutual extradition treaty signed in 2013, there are many steps yet to be followed by the administration of Chief Executive Muhammad Yunus before the government needs to proceed. A big question looms over the legitimacy of Bangladesh's International Crimes Tribunal, which was set up in 2009 by Ms. Hasina herself to prosecute those accused of war crimes during the 1971 Bangladesh liberation war.

'No formal request yet'

In its statement reacting to the death sentence that the ICT handed down to Ms. Hasina on Monday, after her conviction for ordering the killing of anti-government protestors between



Sheikh Hasina

June and August 2024, the Ministry of External Affairs said it would “engage constructively with all stakeholders”, indicating it will not be rushed into a definitive “yes or no” response.

“Let us be clear that so far India has not received a single formal extradition request,” said Veena Sikri, who served as India's High Commissioner to Bangladesh from 2003 to 2006. “A press statement is not a

formal request – the process for an extradition is very complex and legal,” Ms. Sikri added.

Once a request is received, officials said, the government will have to assess it against India's obligations under the 2013 agreement signed by then Home Minister Sushil Kumar Shinde during a visit to Dhaka. That agreement was meant to smoothen the path for the extradition of criminals and terrorists wanted in India, including ULFA leader Anup Chetia, who was transferred to India in 2015.

Treaty exceptions

The 2013 agreement came as Ms. Hasina faced international criticism for setting up the ICT to try the killers of her father Sheikh Mujibur Rahman, and others who colluded with Pa-

kistan during the liberation war, expanding the mandate of Bangladesh's International Crimes (Tribunals) Act, 1973. However, the 2013 treaty itself makes many exceptions the government could use to defend its grant of refuge to Ms. Hasina.

Another option would be to honour the extradition request and to initiate a process based on the Bangladesh request. This would involve a full extradition trial, where Ms. Hasina would be able to respond to the charges against her, something she has been unable to do in Bangladesh.

Finally, New Delhi could choose not to accept the validity of the ICT. Under the extradition treaty, the warrant must be issued by a “judge, magistrate or other competent authority”.

On Bangladesh's extradition request for Hasina, New Delhi has several options it can exercise

हसीना के प्रत्यर्पण अनुरोध पर बांग्लादेश को लेकर नई दिल्ली के पास कई विकल्प मौजूद हैं

- As **Bangladesh's National Security Adviser (NSA) Khalilur Rahman** arrived in New Delhi on Tuesday, and Dhaka prepared a 'note verbale', the Indian government is considering its response to Bangladesh's demand for the **extradition** of its former Prime Minister **Sheikh Hasina**.

जैसे ही **बांग्लादेश के राष्ट्रीय सुरक्षा सलाहकार (NSA) खलीलुर रहमान** मंगलवार को नई दिल्ली पहुंचे, और ढाका 'नोट वर्बल' तैयार कर रहा है, भारतीय सरकार पूर्व प्रधानमंत्री **शेख हसीना** के प्रत्यर्पण की बांग्लादेश की मांग पर अपनी प्रतिक्रिया पर विचार कर रही है।

- During his visit to Delhi, Mr. Rahman is expected to meet with India's NSA **Ajit Doval** and attend the **Colombo Security Conclave**, which includes India, Sri Lanka, the Maldives, Mauritius, and Bangladesh.

दिल्ली दौर के दौरान, श्री रहमान भारत के NSA **अजीत डोभाल** से मिलेंगे और **कोलंबो सिक्योरिटी कॉन्क्लेव** में भाग लेंगे, जिसमें भारत, श्रीलंका, मालदीव, मॉरीशस और बांग्लादेश शामिल हैं।



- Officials and experts are clear that Ms. Hasina — who has lived in New Delhi since last August — is and will remain an “**honoured guest**”.
अधिकारियों और विशेषज्ञों का मानना स्पष्ट है कि हसीना—जो पिछले अगस्त से नई दिल्ली में रह रही हैं—एक “**आदरणीय अतिथि**” हैं और रहेंगी।
- However, they also point out that according to the **India-Bangladesh mutual extradition treaty (2013)**, many steps must still be followed by the administration of Chief Executive **Muhammad Yunus** before the government needs to proceed.
हालाँकि, वे यह भी बताते हैं कि **भारत-बांग्लादेश प्रत्यर्पण संधि (2013)** के अनुसार सरकार को कोई कदम उठाने से पहले मुख्य कार्यकारी **मुहम्मद यूनुस** के प्रशासन को कई प्रक्रियाएँ पूरी करनी होंगी।
- A big question looms over the **legitimacy of Bangladesh's International Crimes Tribunal (ICT)**, which was set up in 2009 by Ms. Hasina herself to prosecute those accused of war crimes during the **1971 liberation war**.
बांग्लादेश के **इंटरनेशनल क्राइम्स ट्रिब्यूनल (ICT)** की **वैधता** पर बड़ा प्रश्न बना हुआ है, जिसे हसीना ने स्वयं 2009 में **1971 मुक्ति युद्ध** के युद्ध अपराधियों पर मुकदमा चलाने हेतु बनाया था।

‘No formal request yet’

‘अभी तक कोई औपचारिक अनुरोध नहीं’

- In its statement reacting to the **death sentence** that the ICT handed down to Ms. Hasina on Monday, the **Ministry of External Affairs (MEA)** said it would “engage constructively with all stakeholders”, indicating it will not rush into a definitive response.
सोमवार को ICT द्वारा हसीना को दी गई **मृत्युदंड** सज़ा पर प्रतिक्रिया देते हुए **विदेश मंत्रालय (MEA)** ने कहा कि वह “सभी हितधारकों के साथ रचनात्मक रूप से संवाद करेगा”, जिससे स्पष्ट है कि भारत जल्दबाज़ी में कोई निर्णय नहीं लेगा।
- “Let us be clear that **so far India has not received a single formal extradition request**,” said **Veena Sikri**, former Indian High Commissioner to Bangladesh.
“स्पष्ट कर दें कि अब तक भारत को **एक भी औपचारिक प्रत्यर्पण अनुरोध प्राप्त नहीं हुआ है**,” भारत की पूर्व उच्चायुक्त **वीणा सिकरी** ने कहा।
- “A press statement is not a formal request — the **process for an extradition is very complex and legal**,” Ms. Sikri added.
उन्होंने कहा, “प्रेस बयान औपचारिक अनुरोध नहीं होता — प्रत्यर्पण की प्रक्रिया अत्यंत **जटिल और कानूनी** होती है।”
- Once a request is received, officials said, the government will have to assess it under the **2013 extradition treaty** signed by then Home Minister **Sushil Kumar Shinde**.
अधिकारियों ने कहा कि अनुरोध प्राप्त होने के बाद सरकार को इसे **2013 की प्रत्यर्पण संधि** के तहत परखना होगा, जिसे तत्कालीन गृहमंत्री **सुशील कुमार शिंदे** ने हस्ताक्षर किया था।
- That agreement was meant to smoothen extradition of criminals wanted in India, including **ULFA leader Anup Chetia, who was extradited in 2015**.
यह संधि भारत में वांछित अपराधियों के प्रत्यर्पण को सरल बनाने हेतु थी, जिसमें **उल्फा नेता अनुप चेतिया** भी शामिल थे जिन्हें 2015 में प्रत्यर्पित किया गया था।

Treaty exceptions

संधि में मौजूद अपवाद

- The 2013 agreement came as Ms. Hasina faced criticism for setting up the ICT to try the killers of her father **Sheikh Mujibur Rahman** and collaborators of Pakistan.
2013 की संधि उस समय आई जब हसीना को अपने पिता **शेख मुजीबुर रहमान** के हत्यारों और पाकिस्तान समर्थक सहयोगियों पर मुकदमा चलाने के लिए ICT बनाने पर आलोचना का सामना करना पड़ रहा था।
- However, the treaty itself makes **many exceptions** that India could use to defend giving refuge to Ms. Hasina.
लेकिन संधि में स्वयं **कई अपवाद** हैं जिनका उपयोग भारत हसीना को शरण देने के लिए कर सकता है।
- Another option would be to honour the **extradition request and begin a full extradition trial, where Ms. Hasina would be able to respond to the charges** — something she has been unable to do in Bangladesh.



एक विकल्प यह भी है कि भारत प्रत्यर्पण अनुरोध को स्वीकार कर **पूर्ण प्रत्यर्पण मुकदमा** शुरू करे, जहाँ हसीना आरोपों का जवाब दे सकें — जो वे बांग्लादेश में नहीं कर पाई हैं।

- Finally, New Delhi could choose not to accept the **validity** of the ICT. **Under the treaty, the warrant must be issued by a judge, magistrate, or competent authority.**
अंततः, नई दिल्ली ICT की **वैधता** को स्वीकार न करने का विकल्प चुन सकती है। संधि के अनुसार, वारंट एक न्यायाधीश, मजिस्ट्रेट या सक्षम प्राधिकारी द्वारा जारी होना चाहिए।

UNSC approves Trump's plan for the future of Gaza

The resolution authorises an international stabilisation force and establishes a transitional authority overseen by U.S. President; it passed with 13 votes in favour as Russia, China abstained

GS II: IR: International
Institutes
Associated
UNITED NATIONS

The Trump administration's blueprint to secure and govern Gaza won strong approval at the United Nations on Monday, a crucial step that provides international support for U.S. efforts to move the devastated territory toward peace following two years of war.

The U.S. resolution that passed the UN Security Council authorises an international stabilisation force to provide security in Gaza, approves a transitional authority to be overseen by President Donald Trump and envisions a



Global support: Ambassadors and representatives to the UN meet to vote, at the UN Headquarters in New York City, on Monday. AFP

possible future path to an independent Palestinian state.

"This will go down as one of the biggest approvals in the History of the

United Nations, will lead to further Peace all over the World, and is a moment of true Historic proportion!" Mr. Trump posted on social media.

The vote endorses Mr. Trump's 20-point ceasefire plan and builds on the momentum of the ceasefire he helped broker with allies. Russia, which had circulated a rival resolution, abstained along with China on the 13-0 vote after fears Moscow might use its veto in the Security Council.

However, Hamas opposed the resolution, saying that it does not meet the "Palestinian people's political and humanitarian demands and rights".

U.S. Ambassador to the UN Mike Waltz said the resolution "represents another significant step towards a stable Gaza that will be able to prosper".

UNSC approves Trump's plan for the future of Gaza गाज़ा के भविष्य के लिए ट्रम्प की योजना को UNSC की मंजूरी

- The resolution authorises an **international stabilisation force** and establishes a **transitional authority overseen by the U.S. President**; it passed with **13 votes in favour** as **Russia and China abstained**.

यह प्रस्ताव एक **अंतरराष्ट्रीय स्थिरीकरण बल** को अधिकृत करता है और एक **संक्रमणकालीन प्राधिकरण** स्थापित करता है जिसे अमेरिकी राष्ट्रपति देखेंगे; यह **13 वोटों से पारित** हुआ जबकि **रूस और चीन ने मतदान से विरत** किया।

- The Trump administration's blueprint to secure and govern Gaza won strong approval at the **United Nations** on Monday, a crucial step providing international support to U.S. efforts to move the war-ravaged territory toward peace.

सोमवार को **संयुक्त राष्ट्र** में गाज़ा को सुरक्षित और संचालित करने की ट्रम्प प्रशासन की योजना को मज़बूत मंजूरी मिली, जो युद्धग्रस्त क्षेत्र को शांति की ओर ले जाने में अमेरिका के प्रयासों को अंतरराष्ट्रीय समर्थन प्रदान करने वाला महत्वपूर्ण कदम है।



- The U.S. resolution passed in the **UN Security Council** authorises an **international stabilisation force** for Gaza, approves a **transitional authority** to be overseen by President Donald Trump, and outlines a possible future path to an **independent Palestinian state**.
यूएन सुरक्षा परिषद में पारित अमेरिकी प्रस्ताव गाज़ा के लिए अंतरराष्ट्रीय स्थिरीकरण बल को अधिकृत करता है, एक संक्रमणकालीन प्राधिकरण को मंजूरी देता है जिसे राष्ट्रपति डोनाल्ड ट्रम्प देखेंगे, और एक संभावित स्वतंत्र फ़िलिस्तीनी राज्य की राह भी प्रस्तुत करता है।
- "This will go down as one of the **biggest approvals** in UN history," Mr. Trump wrote on social media, saying it would lead to "further Peace all over the World".
"यह संयुक्त राष्ट्र के इतिहास में सबसे महत्वपूर्ण अनुमोदनों में दर्ज होगा," श्री ट्रम्प ने सोशल मीडिया पर लिखा, कहते हुए कि यह "दुनिया में और अधिक शांति" की ओर ले जाएगा।
- The vote endorses **Mr. Trump's 20-point ceasefire plan**, building on the momentum of the ceasefire that he helped broker with allies.
यह मतदान श्री ट्रम्प की **20-सूत्रीय युद्धविराम योजना** का अनुमोदन करता है, और उन सहयोगियों के साथ करवाए गए युद्धविराम की गति को आगे बढ़ाता है।
- Russia, which had circulated a rival resolution, abstained along with **China** during the **13-0** vote, after concerns Moscow might veto the proposal.
रूस, जिसने एक प्रतिद्वंद्वी प्रस्ताव पेश किया था, ने **13-0** मतदान में **चीन** के साथ abstain किया, क्योंकि आशंका थी कि मॉस्को इस प्रस्ताव को वीटो कर सकता है।
- However, **Hamas opposed** the resolution, saying it does not meet the **political and humanitarian rights** of the Palestinian people.
हालाँकि, **हमास ने** इस प्रस्ताव का विरोध किया, यह कहते हुए कि यह फ़िलिस्तीनी लोगों की **राजनीतिक और मानवीय आवश्यकताओं और अधिकारों** को पूरा नहीं करता।
- U.S. Ambassador to the UN **Mike Waltz** said the resolution "represents another significant step toward a **stable and prosperous Gaza**."
संयुक्त राष्ट्र में अमेरिकी राजदूत **माइक वॉल्टज़** ने कहा कि यह प्रस्ताव "एक **स्थिर और समृद्ध गाज़ा** की दिशा में एक और महत्वपूर्ण कदम है।"

GS Paper III: Economy, S&T, Environment, DM, &IS	
TOPICS COVERED	19_11_2025
	Economy
	Centre rolls out new initiatives for PDS operations; AI platform to get feedback पीडीएस संचालन के लिए केंद्र ने नई पहल शुरू की; एआई प्लेटफ़ॉर्म लेगा फीडबैक
	Time to sort out India's cereal mess भारत के अनाज संबंधी अव्यवस्था को सुलझाने का समय
	What changes are planned for the plant variety Act? प्लांट वैरायटी एक्ट में क्या बदलाव प्रस्तावित हैं?
	Textile, apparel exports see sharp decline in October अक्टूबर में वस्त्र और परिधान निर्यात में तेज गिरावट
	Goyal looks forward to 'fair, equitable, balanced' BTA गोयल 'निष्पक्ष, समान, संतुलित' BTA की उम्मीद कर रहे हैं



S&T
Centre launches updated plan to curb misuse of antibiotics एंटीबायोटिक्स के दुरुपयोग पर रोक लगाने के लिए केंद्र ने अद्यतन योजना शुरू की
In Delhi study, ragas in the operation theatre cut anaesthesia use दिल्ली अध्ययन में, ऑपरेशन थिएटर में रागों ने एनेस्थीसिया के उपयोग को कम किया
Do animals have mental health problems? क्या जानवरों को मानसिक स्वास्थ्य समस्याएं होती हैं?
The myth of the 'normal': what does your lab report really mean? 'नॉर्मल' का मिथक: आपकी लैब रिपोर्ट का वास्तविक अर्थ क्या है?
QUIZ
How organisations can prepare employees for the AI revolution संगठन AI क्रांति के लिए कर्मचारियों को कैसे तैयार कर सकते हैं
Environment
SC recalls verdict rejecting green clearances ग्रीन क्लीयरेंस को खारिज करने वाला फैसला SC ने वापस लिया
The NH-701A highway is an ecological risk एनएच-701ए हाईवे एक पारिस्थितिक जोखिम है
Big Tech-led carbon removal credit need fuels supply crunch बिग टेक-नेतृत्व वाली कार्बन रिमूवल क्रेडिट की आवश्यकता से आपूर्ति संकट बढ़ा
DM
Indonesian Defence Minister to visit Delhi for talks on BrahMos ब्रहमोस पर वार्ता के लिए इंडोनेशियाई रक्षा मंत्री दिल्ली आएंगे
Excessive dependence अत्यधिक निर्भरता
IS
Cyber-slavery 'mastermind' arrested in Gujarat गुजरात में साइबर-गुलामी का 'मास्टरमाइंड' गिरफ्तार

Economy	19/11/2025
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Centre rolls out new initiatives for PDS operations; AI platform to get feedback

GS III: Economy: PDS
The System
NEW DELHI

The Union Food and Public Distribution Ministry on Tuesday launched several digital initiatives aimed at modernising warehousing operations, improving supply chain efficiency, and enhancing transparency across the Public Distribution System (PDS).

A major initiative is the Anna Sahayata Holistic AI Solution (ASHA), an AI-based platform that allows beneficiaries to share their feedback on ration distribution through AI-enabled calls in their preferred language.

According to the Ministry, the platform runs at a cost of ₹5 lakh, which is much less than maintaining a call centre to reach out to the PDS beneficiaries.

Union Food Minister Pralhad Joshi launched the schemes at an event in Bharat Mandapam. The government said through the platform, beneficiaries can report whether they re-



Innovative projects: Union Minister Pralhad Joshi visiting the FCI Pavilion at the 44th India International Trade Fair in New Delhi. ANI

ceived their full entitlement, the quality of food-grains, and any difficulty faced at Fair Price Shops.

'20 lakh beneficiaries'

"The system uses multilingual translation, sentiment analysis, automated grievance categorisation and real-time dashboards for administrators. ASHA reaches 20 lakh beneficiaries monthly across India, developed in partnership with Wadhvani Founda-

tion and backed by India AI mission via Bhashini's multilingual AI infrastructure," the government said.

Mr. Joshi said that such initiatives support the government's mission of reducing logistics costs and minimising turnover time.

He said the PM Gati Shakti programme has synchronised different modes of transportation and laid the foundation for an integrated logistics ecosystem.

Another transformation

is the Central Warehousing Corporation's new enterprise resource planning platform, 'Bhandaran 360'. "Implemented ahead of schedule, the system integrates 41 modules covering HR, finance, marketing, warehouse management, contract management, project monitoring and other core functions," the government said in a release.

The Union Minister also launched the 'Smart EXIM Warehouse System' for container freight stations and general warehouses. ANNA DARPAN, a new microservices-based platform that replaces the existing Depot Online System, was also launched.

"ANNA DARPAN connects key activities such as procurement, storage, movement, sales, quality checks, labour management and contract monitoring under one integrated system. It serves as a single unified source of truth for both FCI and DFPD," the government said.

Centre rolls out new initiatives for PDS operations; AI platform to get feedback पीडीएस संचालन के लिए केंद्र ने नई पहल शुरू की; एआई प्लेटफॉर्म लेगा फीडबैक

- The **Union Food and Public Distribution Ministry** on Tuesday launched several digital initiatives aimed at modernising warehousing operations, improving supply chain efficiency, and enhancing transparency across the **Public Distribution System (PDS)**.
केंद्रीय खाद्य एवं सार्वजनिक वितरण मंत्रालय ने मंगलवार को कई डिजिटल पहल शुरू कीं, जिनका उद्देश्य गोदाम संचालन का आधुनिकीकरण, सप्लाय चैन दक्षता में सुधार और **सार्वजनिक वितरण प्रणाली (पीडीएस)** में पारदर्शिता बढ़ाना है।
- A major initiative is the **Anna Sahayata Holistic AI Solution (ASHA)**, an AI-based platform that allows beneficiaries to share their feedback on ration distribution through AI-enabled calls in their preferred language.
एक प्रमुख पहल **अन्न सहायता होलिस्टिक एआई सॉल्यूशन (ASHA)** है, जो एआई-सक्षम कॉल के माध्यम से लाभार्थियों को अपनी पसंदीदा भाषा में राशन वितरण पर फीडबैक देने की सुविधा देता है।
- According to the Ministry, the platform runs at a cost of **₹5 lakh**, which is much less than maintaining a call centre to reach out to the PDS beneficiaries.
मंत्रालय के अनुसार, इस प्लेटफॉर्म की लागत **₹5 लाख** है, जो पीडीएस लाभार्थियों तक पहुँचने के लिए कॉल सेंटर चलाने की लागत से काफी कम है।



- Union Food Minister **Pralhad Joshi** launched the schemes at an event in **Bharat Mandapam**.
केंद्रीय खाद्य मंत्री **प्रह्लाद जोशी** ने इन योजनाओं को **भारत मंडपम** में आयोजित एक कार्यक्रम में लॉन्च किया।
- The government said **through the platform, beneficiaries can report whether they received their full entitlement, the quality of foodgrains, and any difficulty faced at Fair Price Shops**.
सरकार ने कहा कि इस प्लेटफॉर्म के माध्यम से लाभार्थी यह बता सकते हैं कि क्या उन्हें पूरा हक मिला, खाद्यान्न की गुणवत्ता कैसी थी और **सस्ते गल्ले की दुकानों** पर कोई कठिनाई हुई या नहीं।

‘20 lakh beneficiaries’

‘20 लाख लाभार्थी’

- “The system uses **multilingual translation, sentiment analysis, automated grievance categorisation and real-time dashboards** for administrators. **ASHA reaches 20 lakh beneficiaries** monthly across India, developed in partnership with **Wadhvani Foundation** and **backed by India AI Mission via Bhashini’s multilingual AI infrastructure**,” the government said.
“यह प्रणाली **बहुभाषी अनुवाद, सेंटिमेंट एनालिसिस**, स्वचालित शिकायत वर्गीकरण और प्रशासकों के लिए **रीयल-टाइम डैशबोर्ड** का उपयोग करती है। **ASHA** पूरे भारत में हर महीने **20 लाख लाभार्थियों** तक पहुँचती है। इसे **वाधवानी फाउंडेशन** के सहयोग से विकसित किया गया है और **इंडिया एआई मिशन व भाषिणी की बहुभाषी एआई संरचना** से समर्थित है,” सरकार ने कहा।
- Mr. Joshi said that **such initiatives support the government’s mission of reducing logistics costs and minimising turnover time**.
श्री जोशी ने कहा कि ऐसी पहलें सरकार के **लॉजिस्टिक्स लागत** को कम करने और **टर्नओवर समय** को घटाने के मिशन को समर्थन देती हैं।
- He said the **PM Gati Shakti** programme has synchronised different modes of transportation and **laid the foundation for an integrated logistics ecosystem**.
उन्होंने कहा कि **पीएम गति शक्ति** कार्यक्रम ने विभिन्न परिवहन साधनों का समन्वय किया है और एक **एकीकृत लॉजिस्टिक्स पारिस्थितिकी तंत्र** की नींव रखी है।
- Another transformation is the **Central Warehousing Corporation’s new enterprise resource planning platform, ‘Bhandaran 360’**.
एक और परिवर्तन **सेंट्रल वेयरहाउसिंग कॉर्पोरेशन** के नए एंटरप्राइज रिसोर्स प्लानिंग प्लेटफॉर्म **‘भंडारण 360’** के रूप में है।
- “Implemented ahead of schedule, the **system integrates 41 modules** covering HR, finance, marketing, warehouse management, contract management, project monitoring and other core functions,” the government said in a release.
सरकार ने एक विज्ञप्ति में कहा कि निर्धारित समय से पहले लागू की गई यह प्रणाली **41 मॉड्यूल** को एकीकृत करती है, जिनमें एचआर, वित्त, मार्केटिंग, गोदाम प्रबंधन, अनुबंध प्रबंधन, परियोजना निगरानी और अन्य महत्वपूर्ण कार्य शामिल हैं।
- The Union Minister also launched the **‘Smart EXIM Warehouse System’ for container freight stations and general warehouses**.
केंद्रीय मंत्री ने कंटेनर फ्रेट स्टेशनों और सामान्य गोदामों के लिए **‘स्मार्ट EXIM वेयरहाउस सिस्टम’** भी लॉन्च किया।
- **ANNA DARPAN, a new microservices-based platform that replaces the existing Depot Online System**, was also launched.
अन्ना दर्पण, जो मौजूदा डिपो ऑनलाइन सिस्टम को बदलने वाला नया **माइक्रोसर्विस-आधारित प्लेटफॉर्म** है, का भी शुभारंभ किया गया।
- **“ANNA DARPAN connects key activities such as procurement, storage, movement, sales, quality checks, labour management and contract monitoring under one integrated system**. It serves as a **single unified source of truth for both FCI and DFPD**,” the government said.
“**अन्ना दर्पण** खरीद, भंडारण, परिवहन, बिक्री, गुणवत्ता जांच, श्रम प्रबंधन और अनुबंध निगरानी जैसी प्रमुख गतिविधियों को एकीकृत प्रणाली के तहत जोड़ता है। यह **FCI** और **DFPD** दोनों के लिए **एकीकृत सत्य स्रोत** के रूप में कार्य करता है,” सरकार ने कहा।



Time to sort out India's cereal mess

GS III: Economy: PDS System

MOB

The recent controversy in Tamil Nadu over paddy procurement during the short-term *kuruvai* season has only strengthened the need for a relook at the procurement system of foodgrains as a whole. In this case – as in many States – the Tamil Nadu Civil Supplies Corporation (TNCSC), which procures paddy on behalf of the Food Corporation of India (FCI), found itself in a spot because of time overruns and charges of corruption. One of the reasons cited is the rise in the coverage of the crop during the season, by about two lakh acres, which was known as early as mid-August. This is because farmers feel it is a safe bet to grow paddy rather than other crops due to minimum assured returns.

Paddy procurement data

The glut is not restricted to Tamil Nadu. Going by the data of the Union Ministry of Consumer Affairs, Food and Public Distribution, the procurement of paddy (in terms of rice) all over the country was nearly 119.86 lakh tonnes as on October 31, 2025 compared to 82.08 lakh tonnes on the corresponding day last year. In the last three years, with regard to rice and wheat, the quarterly opening stock position, as on October 1, was consistently higher than what is prescribed under the norms for the central pool. In the case of rice, the quantity is at least two times more than the requirement. In October this year, the stock was 356.1 lakh tonnes against the norm of 102.5 lakh tonnes.

Compared to wheat, rice is still abundant, if one goes by the Union government's data for the last three years on procurement and offtake under the National Food Security Act (NFSA) and other schemes. Between April 2022 and March 2025, the procurement of rice at the all-India level hovered around 525 lakh tonnes-547 lakh tonnes every year, whereas annual offtake under the Public Distribution System (PDS) was in the range of 392 lakh tonnes-427 lakh tonnes.

Significantly, in the case of wheat, the utilisation under the PDS exceeded the quantity of procurement in two of the last three years (barring 2024-25). At the same time, it must be noted that the Union government spends around ₹2 lakh crore every year in food subsidy.

While, on the one hand, the country is grappling with surplus stocks of rice, on the other it is incurring a huge expenditure in the import of



T. Ramakrishnan

It is a case of paradoxes – India has huge stocks of rice, and also imports large quantities of pulses and oilseeds despite being one of the world's largest producers

pulses and oilseeds, which are two essential commodities that are central in every Indian household. Ironically, in the case of pulses, India is the largest producer in the world – 252.4 lakh tonnes in 2024-25. The two years, from 2023-24, saw a substantial fall in the procurement of notified pulses at minimum support prices (MSP) through agencies which included the National Agricultural Cooperative Marketing Federation of India.

Edible oil imports

According to the annual report of the Union Ministry of Agriculture and Farmers Welfare for 2024-25, the country imported edible oil (₹1.2 lakh crore) and pulses (₹30,000 crore) during 2023-24. In the case of edible oil, about 55% of the demand is met only through imports. Needless to say, the Russia-Ukraine war, which began in February 2022, is a factor that contributed to the steep rise in the cost of edible oil imports which was around ₹82,000 crore in 2020-21, though the quantity imported remained between 135 lakh tonnes-157 lakh tonnes a year in the last six years.

Ironically, the country's production of oilseeds, since 2014, crossed the 400-lakh-tonne mark only once, despite there being no large change in the area covered, which was around 25 million hectares. For about 25 years, experts and the media have been holding the government's decision in the 1990s to allow the import of cheaper edible oil responsible for the adverse effect on domestic production. Yet, the response to counter the impact has not been adequate.

The situation raises a fundamental question: whether the country, in the name of ensuring food security, is following a sustainable policy of procurement at least with regard to rice. It also raises other pertinent questions. Is paddy cultivation being encouraged at the cost of crop rotation? Also, why is it that the country's efforts to improve pulse and oilseed production have not been spectacular unlike in the case of paddy and wheat about 55 years ago? And, should India continue to have the existing arrangement of one or the other central agency in the procurement, storage, transportation and allocation of foodgrains in bulk to the States?

The authorities may protest, if any study is conducted with regard to leakage in the PDS (which was originally meant for managing food supplies during scarcity), as they did about a year

ago when an Indian Council for Research on International Economic Relations (ICRIER) report had stated that there was about a 28% loss of rice and wheat during distribution. It is also well known that the system is far from perfect.

Incentivise crop diversification

To wean paddy-growing farmers from the cereal, crop diversification can be tried out after carrying out area-specific market studies of demand and supply with the involvement of every stakeholder.

One reason why farmers have not taken to diversification in a big way is uncertainty about success if there is a crop switch. Their apprehension can be allayed only by offering financial support and proper guidance. As it is clear that the country is producing more rice than required, the government should allow farmers to freely export rice and not resort to restrictions in a knee-jerk manner.

Many a time, primary procurers of agricultural products are in the dark about the suppliers. For instance, *papad* manufacturers getting to tie-up directly with farmers who raise blackgram or have the means to do so, will result in a win-win situation for both. If such farmers are able to organise themselves as farmers producers' organisations (FPOs), the results will be more durable. The Centre and the States can facilitate such an arrangement.

As an institution, FPOs are still in a nascent stage. Their services can be tapped by the authorities for a range of purposes – educating farmers about soil health; sensitising them to go in for crop diversification; preparing the groundwork for market studies, and establishing the supply chain.

As in West Bengal, FPOs can be utilised for paddy procurement to reduce the load on existing players. Self-help groups and cooperative societies should also be encouraged more in this respect. Wherever required, all such new entrants should be covered under capacity building programmes.

Changes in such a complex system cannot happen overnight but a beginning can be made. It is time that agriculture experts, farmers, food security specialists, policy makers and planners collectively deliberated on ways to plug the loopholes in the system, if not reform it.

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Time to sort out India's cereal mess

भारत के अनाज संबंधी अव्यवस्था को सुलझाने का समय

- The recent controversy in Tamil Nadu over paddy procurement during the **short-term kuruvai season** has only strengthened the need for a relook at the procurement system of foodgrains as a whole. तमिलनाडु में अल्पकालिक कुरुवाई मौसम के दौरान धान खरीद को लेकर हालिया विवाद ने केवल अन्नधान्यों की खरीद प्रणाली की समग्र समीक्षा की आवश्यकता को मजबूत किया है।
- In this case — as in many States — the Tamil Nadu Civil Supplies Corporation (TNCSC), which procures paddy on behalf of the Food Corporation of India (FCI), found itself in a spot because of time overruns and charges of corruption. इस मामले में — कई राज्यों की तरह — तमिलनाडु सिविल सप्लाइज कॉर्पोरेशन (TNCSC), जो फूड कॉर्पोरेशन ऑफ इंडिया (FCI) की ओर से धान खरीदता है, समय की अधिकता और भ्रष्टाचार के आरोपों के कारण मुश्किल में फंस गया।
- One of the reasons cited is the rise in the coverage of the crop during the season, by about two lakh acres, which was known as early as mid-August. उद्धृत कारणों में से एक है मौसम के दौरान फसल के कवरेज में वृद्धि, लगभग दो लाख एकड़ से, जो अगस्त मध्य तक ज्ञात था।
- This is because farmers feel it is a safe bet to grow paddy rather than other crops due to minimum assured returns. ऐसा इसलिए है क्योंकि किसान महसूस करते हैं कि न्यूनतम आश्वासनित प्रतिफल के कारण अन्य फसलों की बजाय धान उगाना सुरक्षित दांव है।

Paddy procurement data

धान खरीद डेटा

- The glut is not restricted to Tamil Nadu. भूमि अधिकता केवल तमिलनाडु तक सीमित नहीं है।



- Going by the data of the **Union Ministry of Consumer Affairs, Food and Public Distribution**, the procurement of paddy (in terms of rice) all over the country was nearly 119.86 lakh tonnes as on October 31, 2025 compared to 82.08 lakh tonnes on the corresponding day last year. केंद्रीय उपभोक्ता मामले, खाद्य और सार्वजनिक वितरण मंत्रालय के डेटा के अनुसार, देशभर में धान (चावल के संदर्भ में) की खरीद 31 अक्टूबर 2025 तक लगभग 119.86 लाख टन थी, जबकि पिछले साल के संबंधित दिन 82.08 लाख टन थी।
- In the last three years, with regard to rice and wheat, the quarterly opening stock position, as on October 1, was consistently higher than what is prescribed under the norms for the central pool. पिछले तीन वर्षों में, चावल और गेहूं के संबंध में, 1 अक्टूबर को तिमाही शुरुआती स्टॉक स्थिति लगातार केंद्रीय पूल के मानदंडों के अनुसार निर्धारित से अधिक रही।
- In the case of rice, the quantity is at least two times more than the requirement. चावल के मामले में, मात्रा आवश्यकता से कम से कम दो गुना अधिक है।
- In October this year, the stock was 356.1 lakh tonnes against the norm of 102.5 lakh tonnes. इस साल अक्टूबर में, स्टॉक 102.5 लाख टन के मानक के मुकाबले 356.1 लाख टन था।
- Compared to wheat, rice is still abundant, if one goes by the Union government's data for the last three years on procurement and offtake under the National Food Security Act (NFSA) and other schemes. गेहूं की तुलना में, चावल अभी भी प्रचुर है, यदि राष्ट्रीय खाद्य सुरक्षा अधिनियम (NFSA) और अन्य योजनाओं के तहत खरीद और ऑफटेक पर पिछले तीन वर्षों के केंद्रीय सरकार के डेटा को देखें।
- Between April 2022 and March 2025, the procurement of rice at the all-India level hovered around 525 lakh tonnes-547 lakh tonnes every year, whereas annual offtake under the Public Distribution System (PDS) was in the range of 392 lakh tonnes- 427 lakh tonnes. अप्रैल 2022 से मार्च 2025 के बीच, अखिल भारतीय स्तर पर चावल की खरीद हर साल लगभग 525 लाख टन-547 लाख टन के आसपास रही, जबकि सार्वजनिक वितरण प्रणाली (PDS) के तहत वार्षिक ऑफटेक 392 लाख टन-427 लाख टन के दायरे में था।
- Significantly, in the case of wheat, the utilisation under the PDS exceeded the quantity of procurement in two of the last three years (barring 2024-25). महत्वपूर्ण रूप से, गेहूं के मामले में, PDS के तहत उपयोगिता पिछले तीन वर्षों में से दो में खरीद की मात्रा से अधिक रही (2024-25 को छोड़कर)।
- At the same time, it must be noted that the Union government spends around ₹2 lakh crore every year in food subsidy. उसी समय, यह नोट करना चाहिए कि केंद्रीय सरकार हर साल खाद्य सब्सिडी पर लगभग ₹2 लाख करोड़ खर्च करती है।
- While, on the one hand, the country is grappling with surplus stocks of rice, on the other it is incurring a huge expenditure in the import of pulses and oilseeds, which are two essential commodities that are central in every Indian household. एक ओर, देश चावल के अधिशेष स्टॉक से जूझ रहा है, दूसरी ओर दालें और तिलहन के आयात पर भारी खर्च हो रहा है, जो हर भारतीय घर में केंद्रीय दो आवश्यक वस्तुएं हैं।
- Ironically, in the case of pulses, India is the largest producer in the world — 252.4 lakh tonnes in 2024-25. विडंबना यह है कि दालों के मामले में भारत दुनिया का सबसे बड़ा उत्पादक है — 2024-25 में 252.4 लाख टन।
- The two years, from 2023-24, saw a substantial fall in the procurement of notified pulses at minimum support prices (MSP) through agencies which included the National Agricultural Cooperative Marketing Federation of India. 2023-24 से दो वर्षों में, नोटिफाइड दालों की न्यूनतम समर्थन मूल्य (MSP) पर खरीद में पर्याप्त गिरावट आई, जो एजेंसियों के माध्यम से हुई जिनमें नेशनल एग्रीकल्चरल कोऑपरेटिव मार्केटिंग फेडरेशन ऑफ इंडिया शामिल थी।

Edible oil imports

खाद्य तेल आयात

- According to the annual report of the Union Ministry of Agriculture and Farmers Welfare for 2024-25, the country imported edible oil (₹1.2 lakh crore) and pulses (₹30,000 crore) during 2023-24. केंद्रीय कृषि और किसान कल्याण मंत्रालय की 2024-25 वार्षिक



रिपोर्ट के अनुसार, देश ने 2023-24 के दौरान खाद्य तेल (₹1.2 लाख करोड़) और दालें (₹30,000 करोड़) आयात किया।

- In the case of **edible oil, about 55% of the demand is met only through imports**. खाद्य तेल के मामले में, मांग का लगभग 55% केवल आयात से पूरा होता है।
- Needless to say, the Russia-Ukraine war, which began in February 2022, is a factor that contributed to the **steep rise in the cost of edible oil imports which was around ₹82,000 crore in 2020-21**, कहने की जरूरत नहीं कि फरवरी 2022 में शुरू हुए रूस-यूक्रेन युद्ध ने खाद्य तेल आयात की लागत में तेज वृद्धि का योगदान दिया, जो 2020-21 में लगभग ₹82,000 करोड़ थी,
- though the quantity imported remained between 135 lakh tonnes-157 lakh tonnes a year in the last six years. हालांकि पिछले छह वर्षों में आयातित मात्रा सालाना 135 लाख टन-157 लाख टन के बीच रही।
- Ironically, the **country's production of oilseeds, since 2014, crossed the 400-lakh-tonne mark only once, despite there being no large change in the area covered, which was around 25 million hectares**. विडंबना यह है कि देश का तिलहन उत्पादन, 2014 से, 400 लाख टन के आंकड़े को केवल एक बार पार किया, भले ही कवर किए गए क्षेत्र में कोई बड़ा बदलाव न हो, जो लगभग 25 मिलियन हेक्टेयर था।
- For about 25 years, experts and the media have been holding the government's decision in the 1990s to allow the import of cheaper **edible oil responsible for the adverse effect on domestic production**. लगभग 25 वर्षों से, विशेषज्ञों और मीडिया ने 1990s में सरकार के सस्ते खाद्य तेल आयात की अनुमति देने के फैसले को घरेलू उत्पादन पर प्रतिकूल प्रभाव के लिए जिम्मेदार ठहराया है।
- Yet, the response to counter the impact has not been adequate. फिर भी, प्रभाव का मुकाबला करने का जवाब पर्याप्त नहीं रहा।
- The situation raises a fundamental question: whether the country, in the name of ensuring food security, is following a sustainable policy of procurement at least with regard to rice. स्थिति एक मौलिक सवाल उठाती है: क्या देश, खाद्य सुरक्षा सुनिश्चित करने के नाम पर, कम से कम चावल के संबंध में खरीद की एक टिकाऊ नीति का पालन कर रहा है?
- It also raises other pertinent questions. यह अन्य प्रासंगिक सवाल भी उठाती है।
- Is paddy cultivation being encouraged at the cost of crop rotation? क्या फसल चक्रण की कीमत पर धान की खेती को प्रोत्साहित किया जा रहा है?
- Also, why is it that the country's efforts to improve pulse and oilseed production have not been spectacular unlike in the case of paddy and wheat about 55 years ago? इसके अलावा, क्यों देश के दाल और तिलहन उत्पादन सुधारने के प्रयास 55 वर्ष पहले धान और गेहूं के मामले में वैसा शानदार नहीं रहे?
- And, should India continue to have the existing arrangement of one or the other central agency in the procurement, storage, transportation and allocation of foodgrains in bulk to the States? और, क्या भारत को खाद्यान्नों की खरीद, भंडारण, परिवहन और राज्यों को थोक में आवंटन में एक या अन्य केंद्रीय एजेंसी की मौजूदा व्यवस्था जारी रखनी चाहिए?
- The authorities may protest, if any study is conducted with regard to leakage in the PDS (which was originally meant for managing food supplies during scarcity), अधिकारी विरोध कर सकते हैं, यदि PDS (जो मूल रूप से कमी के दौरान खाद्य आपूर्ति प्रबंधन के लिए था) में रिसाव के संबंध में कोई अध्ययन किया जाए,
- as they did about a year ago when an Indian Council for Research on International Economic Relations (ICRIER) report had stated that there was about a 28% loss of rice and wheat during distribution. जैसा कि उन्होंने लगभग एक साल पहले किया था जब इंडियन काउंसिल फॉर रिसर्च ऑन इंटरनेशनल इकोनॉमिक रिलेशंस (ICRIER) रिपोर्ट ने कहा था कि वितरण के दौरान चावल और गेहूं का लगभग 28% नुकसान हुआ।
- It is also well known that the system is far from perfect. यह भी अच्छी तरह ज्ञात है कि प्रणाली पूर्णतः सही नहीं है।

Incentivise crop diversification

फसल विविधीकरण को प्रोत्साहित करें



- **To wean paddy-growing farmers from the cereal, crop diversification can be tried out after carrying out area-specific market studies of demand and supply with the involvement of every stakeholder.** धान उगाने वाले किसानों को अनाज से अलग करने के लिए, फसल विविधीकरण को हर हितधारक की भागीदारी से मांग और आपूर्ति के क्षेत्र-विशिष्ट बाजार अध्ययनों के बाद आजमाया जा सकता है।
- **One reason why farmers have not taken to diversification in a big way is uncertainty about success if there is a crop switch.** किसानों के बड़े पैमाने पर विविधीकरण न अपनाने का एक कारण फसल बदलाव पर सफलता की अनिश्चितता है।
- **Their apprehension can be allayed only by offering financial support and proper guidance.** उनकी आशंका को केवल वित्तीय समर्थन और उचित मार्गदर्शन देकर दूर किया जा सकता है।
- **As it is clear that the country is producing more rice than required, the government should allow farmers to freely export rice and not resort to restrictions in a knee-jerk manner.** चूंकि स्पष्ट है कि देश आवश्यकता से अधिक चावल पैदा कर रहा है, सरकार को किसानों को चावल का स्वतंत्र निर्यात करने की अनुमति देनी चाहिए और घुटने के झटके तरीके से प्रतिबंधों का सहारा नहीं लेना चाहिए।
- **Many a time, primary procurers of agricultural products are in the dark about the suppliers.** कई बार, कृषि उत्पादों के प्राथमिक खरीदार आपूर्तिकर्ताओं के बारे में अंधेरे में रहते हैं।
- **For instance, papad manufacturers getting to tie-up directly with farmers who raise blackgram or have the means to do so, will result in a win-win situation for both.** उदाहरण के लिए, पापड़ निर्माताओं का उन किसानों से सीधे टाई-अप करना जो उड़द उगाते हैं या ऐसा करने के साधन रखते हैं, दोनों के लिए लाभ-लाभ की स्थिति में परिणाम देगा।
- **If such farmers are able to organise themselves as farmers producers' organisations (FPOs), the results will be more durable.** यदि ऐसे किसान खुद को **किसान उत्पादक संगठनों (FPOs)** के रूप में संगठित कर सकें, तो परिणाम अधिक टिकाऊ होंगे।
- **The Centre and the States can facilitate such an arrangement.** केंद्र और राज्य ऐसी व्यवस्था को सुगम बना सकते हैं।
- **As an institution, FPOs are still in a nascent stage.** एक संस्था के रूप में, FPOs अभी भी प्रारंभिक चरण में हैं।
- **Their services can be tapped by the authorities for a range of purposes — educating farmers about soil health; sensitising them to go in for crop diversification; preparing the groundwork for market studies, and establishing the supply chain.** उनकी सेवाओं को अधिकारियों द्वारा विभिन्न उद्देश्यों के लिए टैप किया जा सकता है — मिट्टी स्वास्थ्य के बारे में किसानों को शिक्षित करना; उन्हें फसल विविधीकरण के लिए संवेदनशील बनाना; बाजार अध्ययनों के लिए आधार तैयार करना, और आपूर्ति श्रृंखला स्थापित करना।
- **As in West Bengal, FPOs can be utilised for paddy procurement to reduce the load on existing players.** पश्चिम बंगाल की तरह, FPOs का उपयोग धान खरीद के लिए मौजूदा खिलाड़ियों पर बोझ कम करने के लिए किया जा सकता है।
- **Self-help groups and cooperative societies should also be encouraged more in this respect.** स्वयं-सहायता समूहों और सहकारी समितियों को इस संबंध में अधिक प्रोत्साहित किया जाना चाहिए।
- **Wherever required, all such new entrants should be covered under capacity building programmes.** जहां आवश्यक हो, सभी ऐसे नए प्रवेशकों को क्षमता निर्माण कार्यक्रमों के तहत कवर किया जाना चाहिए।
- **Changes in such a complex system cannot happen overnight but a beginning can be made.** इतनी जटिल प्रणाली में बदलाव रातोंरात नहीं हो सकते लेकिन शुरुआत की जा सकती है।
- **It is time that agriculture experts, farmers, food security specialists, policy makers and planners collectively deliberated on ways to plug the loopholes in the system, if not**



reform it. यह समय है कि कृषि विशेषज्ञ, किसान, खाद्य सुरक्षा विशेषज्ञ, नीति निर्माता और योजनाकार सामूहिक रूप से प्रणाली में खामियों को बंद करने के तरीकों पर विचार-विमर्श करें, यदि सुधार न हो।

What changes are planned for the plant variety Act?

Why are farmers' groups concerned? What are some of the amendments that are being discussed?

SS III: Economy
Agriculture
Current issues

MOB

The story so far:

Union Agriculture Minister Shivraj Singh Chouhan said that the Centre will amend the Protection of Plant Variety and Farmers' Rights Act (PPV&FRA Act), incorporating suggestions from stakeholders.

Have consultations started?

A committee headed by eminent agriculture scientist R.S. Paroda, appointed by the Protection of Plant Varieties and Farmers' Rights Authority (PPVFRA), has started stakeholder consultations on the amendments. PPVFRA Chairman Trilochan Mohapatra told *The Hindu* that the committee will examine in detail the premises for amending the law and hold wide consultations with all stakeholders about the amendments. The committee will

review various provisions of the Act in light of inherent deficiencies, present day challenges, and to further bolster farmers' interests. Prof. Mohapatra said the present Act has completed two decades, and in that time the sector has witnessed various technological and scientific advancements as well as changes in trade aspects and farmers' requirements.

What are major topics of discussion?

Though officials maintain that consultations are at the preliminary stage, discussions with farmers include amendments to the definition of 'variety needs' that could be modified to include 'combination of genotypes' so that it could be at par with the draft Seeds Bill of 2019. It was also proposed to include seedlings, tubers, bulbs, rhizomes, roots, tissue culture plantlets, synthetic seeds and other vegetatively propagated material in the definition of seed. There is a proposal to define the term "institution"

occurring in the definition of 'breeder' to include both public and private establishments in the seeds sector. The committee also has questions for stakeholders on the Distinctness, Uniformity and Stability (DUS) test. Stakeholders are being told about the importance of trait and the necessity to include it in DUS guidelines. Further, there are discussions to define "abusive act" so that acts such as producing, selling, marketing, exporting and importing a variety which has the same or an identical denomination of another variety can be made punishable.

What are the concerns?

The Samyukt Kisan Morchha (non-political) founding leader K.V. Biju, who attended the meeting, said the Act should have provisions to register all community-developed seeds. He said that seeds which went through DUS tests should not be allowed to register under a

farmers' or an individual's name. "This is to prevent the misuse of the ownership of the seeds in future by private companies and to avoid monopolisation of seeds. The government should make it a priority that seeds developed by the farmers should remain under community control," he said. Mr. Biju added that there are suspicions of the misuse of the DUS test. He said farmers' groups suspect that in the case of *njavara*, a paddy seed from South India, proper DUS testing was not followed before registration. Policy analyst Shalini Bhatnani said small peasantry is still largely outside of the system and many of them are not aware of techno-legal issues. She said that as per their biocultural practices, they have been approaching seeds as a shared material. "This does not fit into the Intellectual Property Rights framework of granting exclusive economic rights over seeds," she said adding that many countries are operationalising open-source ideas to keep their local plant varieties outside of the IPR system. She said there have been attempts to arm twist developing nations so that domestic laws are compliant with the International Union for the Protection of New Varieties of Plants. On another matter of seed quality, "despite provisions for accountability for non-performance of IP-protected propagating materials in the original Act, the criteria for compensating farmers are not yet detailed out in its Rules," she said.

THE GIST

A committee headed by eminent agriculture scientist R.S. Paroda, appointed by the Protection of Plant Varieties and Farmers' Rights Authority, has started stakeholder consultations on the amendments.

Though officials maintain that consultations are at the preliminary stage, discussions with farmers include amendments to the definition of 'variety needs' that could be modified to include 'combination of genotypes' so that it could be at par with the draft Seeds Bill of 2019.

The Samyukt Kisan Morchha (non-political) founding leader K.V. Biju said the Act should have provisions to register all community-developed seeds.

What changes are planned for the plant variety Act?

प्लांट वैरायटी एक्ट में क्या बदलाव प्रस्तावित हैं?

- **Union Agriculture Minister Shivraj Singh Chouhan** said that the Centre will amend the **Protection of Plant Variety and Farmers' Rights Act (PPV&FRA Act)**, incorporating suggestions from stakeholders. केंद्रीय कृषि मंत्री शिवराज सिंह चौहान ने कहा कि केंद्र संशोधन करेगा संरक्षण पौध विविधता और किसानों के अधिकार अधिनियम (PPV&FRA अधिनियम), हितधारकों के सुझावों को शामिल करते हुए।
- **Have consultations started?** परामर्श शुरू हो गए हैं?
- **A committee headed by eminent agriculture scientist R.S. Paroda, appointed by the Protection of Plant Varieties and Farmers' Rights Authority (PPVFRA), has started stakeholder consultations on the amendments.** प्रसिद्ध कृषि वैज्ञानिक आर.एस. परोड़ा की अध्यक्षता वाली समिति, पौध विविधता और किसान अधिकार प्राधिकरण (PPVFRA) द्वारा नियुक्त, ने संशोधनों पर हितधारक परामर्श शुरू कर दिया है।
- **PPVFRA Chairman Trilochan Mohapatra told The Hindu that the committee will examine in detail the premises for amending the law and hold wide consultations with all stakeholders about the amendments.** PPVFRA अध्यक्ष त्रिलोचन मोहापात्रा ने द हिंदू को बताया कि समिति कानून संशोधन के आधारों की विस्तार से जांच करेगी और सभी हितधारकों के साथ संशोधनों पर व्यापक परामर्श करेगी।
- **The committee will review various provisions of the Act in light of inherent deficiencies, present day challenges, and to further bolster farmers' interests.** समिति अधिनियम के विभिन्न प्रावधानों की समीक्षा करेगी आंतरिक कमियों, वर्तमान चुनौतियों के प्रकाश में, और किसानों के हितों को और मजबूत करने के लिए।
- **Prof. Mohapatra said the present Act has completed two decades, and in that time the sector has witnessed various technological and scientific advancements as well as changes in trade aspects and farmers' requirements.** प्रो. मोहापात्रा ने कहा कि वर्तमान अधिनियम ने दो दशक पूरे कर लिए हैं, और उस समय में क्षेत्र ने विभिन्न तकनीकी और वैज्ञानिक प्रगति के साथ-साथ व्यापार पहलुओं और किसानों की आवश्यकताओं में बदलाव देखे हैं।

What are major topics of discussion?



चर्चा के प्रमुख विषय क्या हैं?

- Though officials maintain that consultations are at the preliminary stage, discussions with farmers include **amendments to the definition of 'variety needs' that could be modified to include 'combination of genotypes'** so that it could be at par with the **draft Seeds Bill of 2019**. हालांकि अधिकारी कहते हैं कि परामर्श प्रारंभिक चरण में हैं, किसानों के साथ चर्चाओं में 'विविधता आवश्यकताओं' की परिभाषा में संशोधन शामिल है जो 'जीनोटाइप्स का संयोजन' को शामिल करने के लिए संशोधित किया जा सकता है ताकि यह 2019 के ड्राफ्ट बीज विधेयक के समकक्ष हो।
- It was also proposed to include **seedlings, tubers, bulbs, rhizomes, roots, tissue culture plantlets, synthetic seeds and other vegetatively propagated material in the definition of seed**. बीज की परिभाषा में बीजाणु, कंद, बल्ब, कंदमूल, जड़ें, उतक संस्कृति पौध, सिंथेटिक बीज और अन्य वनस्पति रूप से प्रचारित सामग्री को शामिल करने का भी प्रस्ताव था।
- There is a proposal to **define the term "institution" occurring in the definition of 'breeder' to include both public and private establishments in the seeds sector**. 'संस्थान' शब्द को 'संवर्धक' की परिभाषा में शामिल करने का प्रस्ताव है ताकि बीज क्षेत्र में सार्वजनिक और निजी दोनों प्रतिष्ठानों को शामिल किया जा सके।
- The committee also has questions for stakeholders on the **Distinctness, Uniformity and Stability (DUS) test**. समिति के पास हितधारकों के लिए **विशिष्टता, एकरूपता और स्थिरता (DUS)** परीक्षण पर भी सवाल हैं।
- Stakeholders are being told about the importance of trait and the necessity to include it in **DUS guidelines**. हितधारकों को लक्षण के महत्व और इसे **DUS दिशानिर्देशों** में शामिल करने की आवश्यकता के बारे में बताया जा रहा है।
- Further, there are discussions to define **"abusive act" so that acts such as producing, selling, marketing, exporting and importing a variety which has the same or an identical denomination of another variety can be made punishable**. इसके अलावा, "दुरुपयोगपूर्ण कार्य" को परिभाषित करने पर चर्चा हो रही है ताकि ऐसी विविधता का उत्पादन, बिक्री, विपणन, निर्यात और आयात जो किसी अन्य विविधता के समान या समान नाम वाली हो, दंडनीय बनाया जा सके।



What are the concerns?

चिंताएं क्या हैं?

- The **Samyukt Kisan Morcha (non-political) founding leader K.V. Biju**, who attended the meeting, said the Act should have provisions to register all community-developed seeds. **संयुक्त किसान मोर्चा (अराजनीतिक)** के संस्थापक नेता **के.वी. बिजू**, जो बैठक में शामिल हुए, ने कहा कि अधिनियम में सभी समुदाय-विकसित बीजों को पंजीकृत करने के प्रावधान होने चाहिए।
- He said that **seeds which went through DUS tests should not be allowed to register under a farmers' or an individual's name**. उन्होंने कहा कि **DUS परीक्षणों** से गुजरने वाले बीजों को किसान या व्यक्ति के नाम पर पंजीकृत करने की अनुमति नहीं दी जानी चाहिए।
- **"This is to prevent the misuse of the ownership of the seeds in future by private companies and to avoid monopolisation of seeds**. "यह निजी कंपनियों द्वारा भविष्य में बीजों के स्वामित्व के दुरुपयोग को रोकने और बीजों के एकाधिकार से बचने के लिए है।
- **The government should make it a priority that seeds developed by the farmers should remain under community control," he said**. सरकार को प्राथमिकता देनी चाहिए कि किसानों द्वारा विकसित बीज समुदाय नियंत्रण में रहें," उन्होंने कहा।
- **Mr. Biju added that there are suspicions of the misuse of the DUS test**. **मिस्टर बिजू** ने जोड़ा कि **DUS परीक्षण** के दुरुपयोग की संदेह हैं।



- He said farmers' groups suspect that in the case of njavara, a paddy seed from South India, proper DUS testing was not followed before registration. उन्होंने कहा कि किसान समूहों को संदेह है कि दक्षिण भारत के धान बीज नजवारा के मामले में पंजीकरण से पहले उचित DUS परीक्षण का पालन नहीं किया गया।
- Policy analyst Shalini Bhutani said small peasantry is still largely outside of the system and many of them are not aware of techno-legal issues. नीति विश्लेषक शालिनी भूतानी ने कहा कि छोटे किसान अभी भी बड़े पैमाने पर प्रणाली के बाहर हैं और उनमें से कई को तकनीकी-कानूनी मुद्दों की जानकारी नहीं है।
- She said that as per their biocultural practices, they have been approaching seeds as a shared material. उन्होंने कहा कि उनकी जैव-सांस्कृतिक प्रथाओं के अनुसार, वे बीजों को साझा सामग्री के रूप में देखते आ रहे हैं।
- "This does not fit into the Intellectual Property Rights framework of granting exclusive economic rights over seeds," she said adding that many countries are operationalising open-source ideas to keep their local plant varieties outside of the IPR system. "यह बौद्धिक संपदा अधिकार ढांचे में फिट नहीं होता जो बीजों पर विशेष आर्थिक अधिकार प्रदान करता है," उन्होंने कहा और जोड़ा कि कई देश अपने स्थानीय पौध विविधताओं को IPR प्रणाली के बाहर रखने के लिए ओपन-सोर्स विचारों को कार्यान्वित कर रहे हैं।
- She said there have been attempts to arm twist developing nations so that domestic laws are compliant with the International Union for the Protection of New Varieties of Plants. उन्होंने कहा कि विकासशील देशों को मजबूर करने के प्रयास हुए हैं ताकि घरेलू कानून नई पौध विविधताओं के संरक्षण के लिए अंतरराष्ट्रीय संघ के अनुरूप हों।
- On another matter of seed quality, "despite provisions for accountability for non-performance of IP-protected propagating materials in the original Act, the criteria for compensating farmers are not yet detailed out in its Rules," she said. बीज गुणवत्ता के एक अन्य मामले पर, "मूल अधिनियम में IP-सुरक्षित प्रचार सामग्री के गैर-प्रदर्शन के लिए जवाबदेही के प्रावधानों के बावजूद, किसानों को मुआवजा देने के मानदंड अभी तक उसके नियमों में विस्तृत नहीं किए गए हैं," उन्होंने कहा।

Textile, apparel exports see sharp decline in October

Tariffs take a toll on outbound shipments, as supplies to U.S. buyers continue at heavy discounts; Centre rescinds Quality Control Order on viscose staple fibres, industry hails move

GS III: Economy

M. Soundariya Preetha
COIMBATORE

With the U.S. tariffs hitting hard, apparel and textile exports saw 12.91% slump in October compared with the same month last year.

While textile shipments last month were at \$1,597 million, apparel exports stood at \$1,069.42 million against \$1,833 million and \$1,227 million respectively in October 2024.

Exports of jute and carpets dropped 27.27% and 15.8% respectively, while cotton yarn, fabrics, and made-ups declined 13.31%.

"Many buyers in the U.S. who were placing orders with us regularly are still doing so. But, we are supplying at heavy discounts," said A. Sakthivel, vice chairman of the Apparel Export Promotion Council (AEPCC).



Taper off: Jute exports dropped 27.27%, while cotton yarn, fabrics, and made-ups declined 13.31%. FILE PHOTO

"The garment exporters got the spring season orders. But, the summer orders are slow. Things may improve with bilateral trade agreement expected soon and the support measures announced by the Indian government," said AEPCC secretary general Mithileshwar Thankur.

Cotton Textiles Export Promotion Council Executive Director Siddhartha Rajagopal said yarn exports to China did see a

slight improvement, but supplies to other markets slumped. He urged the Centre to look at the textile industry as one integrated value chain and offer financial support to the entire value chain.

Meanwhile, in a notification issued on Tuesday, the Union Ministry of Textiles rescinded the Quality Control Order (QCO) on viscose staple fibres.

Durai Palanisamy, chairman of the Southern India

Mills Association said that removal of the QCO would strengthen the manmade fibre (MMF) ecosystem and benefit the industry in the long run.

Revoking the QCO for viscose fibres and polyester yarn and fibres will address the price and availability concerns raised by the users of these raw material in the MMF segment, said Ashwin Chandran, chairman, Confederation of Indian Textile Industry.

PLI approvals

The Textile Ministry also said that 17 new applications for a cumulative investment of ₹2,374 crore were approved under round three of the Production Linked Incentive (PLI) scheme. The proposed projects are expected to achieve a projected sales of over ₹12,893 crore and generate employment for about 22,646 persons.



Textile, apparel exports see sharp decline in October अक्टूबर में वस्त्र और परिधान निर्यात में तेज गिरावट

- With the **U.S. tariffs** hitting hard, apparel and textile exports saw a 12.91% **slump** in October compared with the same month last year.
अमेरिका के शुल्क भारी पड़ने से अक्टूबर में परिधान और वस्त्र निर्यात में पिछले वर्ष की तुलना में **12.91% की गिरावट** दर्ज की गई।
- While textile shipments last month were at **\$1,597 million**, apparel exports stood at **\$1,069.42 million** against **\$1,833 million** and **\$1,227 million** respectively in October 2024.
पिछले महीने वस्त्र निर्यात **\$1,597 मिलियन** रहा, जबकि परिधान निर्यात **\$1,069.42 मिलियन** रहा, जो अक्टूबर 2024 के **\$1,833 मिलियन** और **\$1,227 मिलियन** की तुलना में कम है।
- Exports of **jute and carpets** dropped **27.27%** and **15.8%** respectively, while **cotton yarn, fabrics, and made-ups** declined **13.31%**.
जूट और कालीन के निर्यात में क्रमशः **27.27%** और **15.8%** की गिरावट आई, जबकि **कॉटन यार्न, फैब्रिक्स और मेड-अप्स** में **13.31%** की कमी दर्ज की गई।
- “Many buyers in the U.S. who were placing orders with us regularly are still doing so. But we are supplying at **heavy discounts**,” said **A. Sakthivel**, vice chairman, AEPC.
“अमेरिका के कई खरीदार जो पहले नियमित ऑर्डर देते थे, अभी भी दे रहे हैं, लेकिन हम **भारी छूट** पर आपूर्ति कर रहे हैं,” **ए. सक्थिवेल**, उपाध्यक्ष, AEPC ने कहा।
- “The garment exporters got the **spring season orders**. But the **summer orders** are slow. Things may improve with the expected **bilateral trade agreement** and government support,” said **Mithileshwar Thankur**, secretary-general, AEPC.
“गारमेंट निर्यातकों को **स्प्रिंग सीजन** के ऑर्डर मिले हैं, लेकिन **समर सीजन** के ऑर्डर धीमे हैं। प्रस्तावित **द्विपक्षीय व्यापार समझौते** और सरकारी समर्थन से स्थिति सुधर सकती है,” **मिथिलेश्वर ठाकुर**, महासचिव, AEPC ने कहा।
- **Siddhartha Rajagopal**, Executive Director, Cotton Textiles Export Promotion Council, said yarn exports to **China** improved slightly, but supplies to other markets slumped.
सिद्धार्थ राजगोपाल, कार्यकारी निदेशक, कॉटन टेक्सटाइल्स एक्सपोर्ट प्रमोशन काउंसिल ने कहा कि **चीन** को यार्न निर्यात में थोड़ी बढ़ोतरी हुई, लेकिन अन्य बाजारों में भारी गिरावट देखी गई।
- He urged the Centre to view the textile industry as **one integrated value chain** and offer **financial support** to the entire chain.
उन्होंने केंद्र से वस्त्र उद्योग को **एकीकृत मूल्य श्रृंखला** मानकर पूरी श्रृंखला को **वित्तीय सहायता** देने का अनुरोध किया।
- In a notification issued on Tuesday, the Union Ministry of Textiles **rescinded the Quality Control Order (QCO) on viscose staple fibres**.
मंगलवार को जारी अधिसूचना में वस्त्र मंत्रालय ने **विस्कोस स्टेपल फाइबर** पर लागू **क्वालिटी कंट्रोल ऑर्डर (QCO)** को **रद्द** कर दिया।
- **Durai Palanisamy**, chairman, Southern India Mills Association, said removing the QCO would strengthen the **manmade fibre (MMF) ecosystem** and benefit the industry in the long run.
दुरई पलानीसामी, अध्यक्ष, साउदर्न इंडिया मिल्स एसोसिएशन ने कहा कि QCO हटाने से **एमएमएफ (मानव निर्मित फाइबर) इकोसिस्टम** मजबूत होगा और उद्योग को दीर्घकाल में लाभ मिलेगा।
- Revoking the QCO for viscose fibres and **polyester yarn and fibres** will address **price and availability** concerns raised by MMF users, said **Ashwin Chandran**, chairman, CITI.
विस्कोस और **पॉलिएस्टर यार्न व फाइबर** पर QCO हटाने से **मूल्य और उपलब्धता** से जुड़े मुद्दे हल होंगे, **अश्विन चंद्रन**, अध्यक्ष, CITI ने कहा।
- The Textile Ministry also said that **17 new applications** for investment of **₹2,374 crore** were approved under round three of the **PLI scheme**.
वस्त्र मंत्रालय ने यह भी कहा कि **PLI योजना** के तीसरे चरण में **₹2,374 करोड़** के निवेश वाली **17 नई परियोजनाएँ** मंजूर की गई हैं।
- The proposed projects are expected to achieve **sales of over ₹12,893 crore** and generate employment for **about 22,646 persons**.
प्रस्तावित परियोजनाओं से **₹12,893 करोड़** से अधिक की बिक्री और **22,646 लोगों** को रोजगार मिलने की उम्मीद है।



Goyal looks forward to 'fair, equitable, balanced' BTA

GS III: Economy:
T.C External Sector

NEW DELHI

India and the U.S. share an equal commitment towards expanding trade and commerce between the two countries, Commerce and Industry Minister Piyush Goyal said, while adding that there could be "good news" on a

trade deal once it becomes "fair, equitable, and balanced".

The Hindu had reported on November 17, citing a senior official in the Ministry of Commerce and Industry, that the first tranche of a trade deal with the U.S., dealing with the reciprocal tariffs, was nearing completion.

"Negotiation is a process and India as a nation has to secure its interests, and the interests of its stakeholders, businesses, and balance it with our sensitivities, our farmers, fishermen, and small industries," Mr. Goyal said while speaking at the 22nd Indo-U.S. Economic Summit organised by the Indo-American

Chamber of Commerce.

"And when we find the right balance, you can rest assured, we will get outcomes on this score," he added.

The Minister highlighted the signing of a term contract for the import of 2.2 million tonnes per year of LPG from the U.S. as a

sign of the "strong bond" between India and the U.S.

"They see India as a trusted partner," Mr. Goyal asserted. "We are both equally committed to working to expand trade and commerce between the two countries. When the deal becomes fair, equitable, and balanced, you will hear good news."

Goyal looks forward to 'fair, equitable, balanced' BTA

गोयल 'निष्पक्ष, समान, संतुलित' BTA की उम्मीद कर रहे हैं

- India and the U.S. share an equal commitment towards expanding trade and commerce between the two countries, Commerce and Industry Minister **Piyush Goyal** said, while adding that there could be "good news" on a trade deal once it becomes **fair, equitable, and balanced**.
भारत और अमेरिका दोनों देशों के बीच व्यापार और वाणिज्य बढ़ाने के लिए समान प्रतिबद्धता रखते हैं, यह बात वाणिज्य एवं उद्योग मंत्री **पीयूष गोयल** ने कही, साथ ही यह भी जोड़ा कि जब व्यापार समझौता **निष्पक्ष, समान और संतुलित** हो जाएगा, तो "अच्छी खबर" मिल सकती है।
- The Hindu** had reported on November 17, citing a senior official in the Ministry of Commerce and Industry, that the first tranche of a trade deal with the U.S., dealing with the **reciprocal tariffs**, was nearing completion.
द हिंदू ने 17 नवंबर को वाणिज्य एवं उद्योग मंत्रालय के एक वरिष्ठ अधिकारी का हवाला देते हुए बताया था कि अमेरिका के साथ व्यापार समझौते के पहले चरण, जिसमें **पारस्परिक शुल्क** शामिल हैं, के अंतिम चरण में पहुंचने की संभावना है।
- "Negotiation is a process and India as a nation has to secure its interests, and the interests of its stakeholders, businesses, and balance it with our sensitivities, our farmers, fishermen, and small industries," Mr. Goyal said while speaking at the **22nd Indo-U.S. Economic Summit** organised by the Indo-American Chamber of Commerce.
"वार्ता एक प्रक्रिया है और भारत को एक राष्ट्र के रूप में अपने हितों के साथ-साथ अपने हितधारकों, व्यवसायों, और अपनी संवेदनशीलताओं — किसानों, मछुआरों और लघु उद्योगों — के हितों की रक्षा करनी होती है," श्री गोयल ने **22वें इंडिया-यू.एस. आर्थिक सम्मेलन** में कहा।
- "And when we find the right balance, you can rest assured, we will get outcomes on this score," he added.
उन्होंने आगे कहा, "और जब हमें सही संतुलन मिल जाएगा, तो निश्चित रहें, हमें इस मोर्चे पर परिणाम मिलेंगे।"
- The Minister highlighted the signing of a **term contract** for the import of **2.2 million tonnes per year of LPG** from the U.S. as a sign of the **strong bond** between India and the U.S.
मंत्री ने अमेरिका से प्रति वर्ष **2.2 मिलियन टन LPG** के आयात के लिए **टर्म कॉन्ट्रैक्ट** पर हस्ताक्षर को भारत और अमेरिका के बीच **मजबूत संबंध** का प्रतीक बताया।
- "They see India as a trusted partner," Mr. Goyal asserted. "We are both equally committed to working to expand trade and commerce between the two countries. When the deal becomes fair, equitable, and balanced, you will hear good news."
उन्होंने कहा, "वे भारत को एक विश्वसनीय साझेदार मानते हैं। हम दोनों देश आपसी व्यापार और वाणिज्य को बढ़ाने के लिए समान रूप से प्रतिबद्ध हैं। जब समझौता निष्पक्ष, समान और संतुलित होगा, तब आपको अच्छी खबर मिलेगी।"

S&T

19/11/2025



GS III: S&T

Centre launches updated plan to curb misuse of antibiotics

Antimicrobial Resistance (AMR) is a major public health concern and poses significant risks, particularly in surgical procedures, cancer treatment, and other healthcare interventions. It can be addressed only through collective action, Union Health Minister J. P. Nadda said on Tuesday at the launch of the second version of the National Action Plan on Antimicrobial Resistance (NAP-AMR) (2025-29). "Overuse and misuse of antibiotics have become common, and NAP-AMR 2.0 aims to identify earlier gaps by increasing the ownership of AMR-related efforts, improving inter-sectoral coordination and ensuring stronger engagement with the private sector," he said.

Centre launches updated plan to curb misuse of antibiotics

एंटीबायोटिक्स के दुरुपयोग पर रोक लगाने के लिए केंद्र ने अद्यतन योजना शुरू की



• **Antimicrobial Resistance (AMR)** is a major public health concern and poses significant risks, particularly in surgical procedures, cancer treatment, and other

healthcare interventions.

एंटीमाइक्रोबियल रेजिस्टेंस (AMR) एक प्रमुख सार्वजनिक स्वास्थ्य चिंता है और विशेष रूप से सर्जिकल प्रक्रियाओं, कैंसर उपचार और अन्य स्वास्थ्य सेवाओं में गंभीर जोखिम पैदा करता है।

- It can be addressed only through **collective action**, Union Health Minister **J. P. Nadda** said on Tuesday at the launch of the second version of the **National Action Plan on Antimicrobial Resistance (NAP-AMR) (2025-29)**. यह केवल **सामूहिक प्रयासों** से ही नियंत्रित किया जा सकता है, यह बात मंगलवार को संघ स्वास्थ्य मंत्री **जे. पी. नड्डा** ने **राष्ट्रीय कार्य योजना — AMR (NAP-AMR) (2025-29)** के दूसरे संस्करण के शुभारंभ पर कही।
- "Overuse and misuse of antibiotics have become common, and **NAP-AMR 2.0 aims to identify earlier gaps by increasing the ownership of AMR-related efforts, improving inter-sectoral coordination** and ensuring stronger engagement with the **private sector**," he said. उन्होंने कहा, "एंटीबायोटिक्स का अत्यधिक और अनियंत्रित उपयोग आम हो गया है, और **NAP-AMR 2.0** का उद्देश्य AMR-संबंधित प्रयासों में **स्वामित्व बढ़ाकर, अंतर-विभागीय समन्वय सुधारकर, और निजी क्षेत्र की मज़बूत भागीदारी सुनिश्चित करके पिछली कमियों की पहचान करना है।**"



In Delhi study, ragas in the operation theatre cut anaesthesia use

Even under anaesthesia, the brain doesn't shut down: the auditory cortex still registers sound; as surgery begins, the body's stress systems stir and the levels of cortisol and other hormones rise, pushing up blood pressure to cope with the strain; the person feels nothing but the body still braces; music seems to mellow this response

ANUPAMA CHANDRASEKARAN

At first glance, the photograph looks like a scene from a science-fiction film or one of those viral, digitally altered images. A woman lies calm on an operating table under bright white lights, a headset snug over her ears. But it's real and was taken inside a hospital in New Delhi more than a year ago.

It's a snapshot of an unusual clinical trial by a group of anaesthesiologists from Lok Nayak Hospital and Maulana Azad Medical College. They wanted to investigate if music flowing through headsets during a minor surgery could soften the blow of strong medicines. "All our surgeries are in completely new environments for patients and we give them general anaesthesia to produce unconsciousness," Sonia Wadhavan, director professor of Anaesthesia and Intensive Care at Maulana Azad Medical College, said. "But since all these groups of drugs come with some amount of side effects, we asked: if we integrate music therapy with our anaesthetic agents, can it help us reduce the requirement of these drugs?"

Dr. Wadhavan and her team designed a randomised controlled trial, which is a kind of experiment where people are split into groups by chance, like drawing names from a hat, to see if something truly works. One group listened to slow, soothing ragas for the entire surgery; the other did not. The results were telling: people who heard the music needed 15% less anaesthetic. Their heart rates stayed steady, their blood pressure held firm, and stress hormone levels fell. The study suggested that music helps patients heal with less strain and less medicine.

Soundtrack under the scalpel
The study, published in the October 2025 edition of the journal *Music and Medicine*, ran over 11 months. Fifty-six adults planning gallbladder removal, a common surgery to take out the small organ that holds digestive fluid used to break down fats, volunteered for this research. The patients were split into two groups: one listened to soft flute and piano music during surgery; the other wore identical noise-cancellation headphones and were in silence.

The music the researchers chose wasn't random. It featured two Hindustani ragas: the bright, uplifting tones of Raga Yaman and the calm, soothing notes of Raga Kirvani. They chose these ragas because they believed the tones could gently steer the body's "fight or flight" system, which raises heart rate and blood pressure under stress, towards a calmer and steadier state. "Since the ability to hear remains intact even under anaesthesia, we used



Every drop of drug and every minute saved can ease costs, speed recovery, and free beds. DR. FARAH HUSAIN/SPECIAL ARRANGEMENT

music therapy to study its effect on the sympathetic system and stress modulators like cortisol," Dr. Wadhavan said.

And it worked. Patients who listened to the music needed, on average, about 15% less propofol, a fast-acting anaesthetic that puts you under in seconds and keeps you pain-free and perfectly still. Not only that: their levels of cortisol, a hormone the body releases when it's stressed, were lower. The participants also needed fewer painkillers and had steady blood pressure throughout the surgery. "It was a eureka moment," said Tanvi Goel, principal investigator and anaesthesiologist at Lok Nayak Hospital and Maulana Azad Medical College. "The music group not only required less anaesthesia but their stress levels were significantly lower."

Even under anaesthesia, the brain doesn't shut down. The auditory cortex still registers sound, catching rhythm and tone. As surgery begins – with its pokes, pricks, and cuts – the body's stress systems stir. The levels of cortisol and other hormones rise, pushing up blood pressure and blood sugar to cope with the strain. The person feels nothing but the body still braces. Music seems to mellow this response, releasing endorphins and oxytocin to steady the heart, ease stress, and support healing.



Since all these anaesthetics come with side effects, we asked: could music reduce the dosage required?

SONIA WADHAVAN
PROFESSOR OF ANAESTHESIA AND INTENSIVE CARE
AT MAULANA AZAD MEDICAL COLLEGE

"It's non-pharmacological, low-cost, and safe," said Farah Husain, co-investigator and a certified music therapist. "All it needs is a Bluetooth device and a pair of headphones. There's no side-effect, only potential benefits."

'Complementary approaches'
Alex Street is a senior research fellow at the Cambridge Institute for Music Therapy Research in the UK. He studies how music stirs the brain, the nervous system, and emotions, and how it can be used in real therapy.

"What needs to happen is medicine always has to have a non-medical adjunct," Dr. Street said. "Complementary approaches like music can reduce the need for medications that often have nasty side effects."

For instance, fentanyl is a synthetic

opioid often used to control severe pain during surgery. But just 2 mg of fentanyl can kill an adult human. It has become the leading cause of death for Americans aged 18 to 45, surpassing car accidents and gun violence. This is part of the opioid crisis, driven by the overuse of powerful painkillers. The epidemic shows why gentler ways to ease pain and stress are needed now more than ever.

In the Lok Nayak Hospital study, patients who listened to soothing music needed less fentanyl during surgery, signalling that non-drug approaches could reduce reliance on powerful painkillers.

Dr. Street added a practical reminder: that patients still need to hear the surgical team, even when the music plays. "You can't just block everything out with noise-cancelling headphones," he said. "The patient needs to be able to hear what people are saying."

The Delhi team now hopes to test their music experiment with more surgeries and larger groups. In a country where hospitals overflow and resources are stretched thin, every drop of drug and every minute saved can ease costs, speed recovery, and free beds.

That image of a patient on an operating table with headsets on may soon feel less like science fiction and more like standard care.

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THE GIST

People who heard the music needed about 15% less anaesthetic, their heart rates stayed steady, their blood pressure held firm, and stress hormone levels fell; this suggested that music helps patients heal with less strain and less medicine

According to the researchers involved, music therapy is non-pharmacological, low-cost, and safe; all it needs is a Bluetooth device and a pair of headphones; there are no side effects, only potential benefits

Patients who listened to soothing music also needed less fentanyl, a potent opioid during the surgery, signalling that non-drug approaches could help reduce reliance on powerful painkillers

In Delhi study, ragas in the operation theatre cut anaesthesia use

दिल्ली अध्ययन में, ऑपरेशन थिएटर में रागों ने एनेस्थीसिया के उपयोग को कम किया

- Even under **anaesthesia**, the brain doesn't shut down; the auditory cortex still registers sound; as surgery begins, the body's **stress systems** stir and the levels of **cortisol** and other hormones rise, pushing up **blood pressure** to cope with the strain; the person feels nothing but the body still braces; music seems to mellow this response
एनेस्थीसिया के बावजूद, मस्तिष्क बंद नहीं होता; ऑडिटरी कॉर्टेक्स अभी भी ध्वनि को दर्ज करता है; जैसे ही सर्जरी शुरू होती है, शरीर की **तनाव प्रणाली** सक्रिय हो जाती है और **कॉर्टिसोल** तथा अन्य हार्मोन के स्तर बढ़ जाते हैं, जिससे **ब्लड प्रेशर** बढ़ जाता है ताकि शरीर दबाव का सामना कर सके; व्यक्ति कुछ महसूस नहीं करता, लेकिन शरीर फिर भी खुद को तैयार करता है; संगीत इस प्रतिक्रिया को कम करता हुआ प्रतीत होता है
- A first glance, the photograph looks like a scene from a science-fiction film or one of those viral, digitally altered images. पहली नजर में यह तस्वीर किसी विज्ञान-कथा फिल्म के दृश्य या उन वायरल, डिजिटल रूप से बदली हुई तस्वीरों में से एक जैसी लगती है।
- A woman lies calm on an operating table under bright white lights, a headset snug over her ears. एक महिला शांत भाव से ऑपरेशन टेबल पर लेटी है, चमकदार सफेद रोशनी के नीचे, कानों पर हेडसेट कसकर लगा हुआ।



- But it's real and was taken inside a hospital in New Delhi more than a year ago. लेकिन यह वास्तविक है और नई दिल्ली के एक अस्पताल में एक साल से अधिक पहले ली गई थी।
- It's a snapshot of an unusual clinical trial by a group of anaesthesiologists from Lok Nayak Hospital and Maulana Azad Medical College. यह लोक नायक अस्पताल और मौलाना आजाद मेडिकल कॉलेज के एनेस्थीसियोलॉजिस्ट्स के एक असामान्य क्लिनिकल ट्रायल की झलक है।
- They wanted to investigate if music flowing through headsets during a minor surgery could soften the blow of strong medicines. वे जानना चाहते थे कि क्या सर्जरी के दौरान हेडसेट से बहता संगीतमजबूत दवाओं के दुष्प्रभाव को कम कर सकता है।
- "All our surgeries are in completely new environments for patients and we give them general anaesthesia to produce unconsciousness," Sonia Wadhavan, director professor of Anaesthesia and Intensive Care at Maulana Azad Medical College, said. "हमारी सभी सर्जरी मरीजों के लिए पूरी तरह नए माहौल में होती हैं और हम उन्हें बेहोशी पैदा करने के लिए जनरल एनेस्थीसिया देते हैं," सोनिया वाधवान, मौलाना आजाद मेडिकल कॉलेज में एनेस्थीसिया और इंटेन्सिव केयर की डायरेक्टर प्रोफेसर, ने कहा।
- "But since all these groups of drugs come with some amount of side effects, we asked: if we integrate music therapy with our anaesthetic agents, can it help us reduce the requirement of these drugs?" "लेकिन चूंकि इन सभी दवाओं के कुछ साइड इफेक्ट्स होते हैं, हमने पूछा: अगर हम म्यूजिक थेरेपी को अपने एनेस्थेटिक एजेंट्स के साथ जोड़ें तो क्या इन दवाओं की जरूरत कम हो सकती है?"
- Dr. Wadhavan and her team designed a randomised controlled trial, which is a kind of experiment where people are split into groups by chance, like drawing names from a hat, to see if something truly works. डॉ. वाधवान और उनकी टीम ने एक रैंडमाइज्ड कंट्रोल्ड ट्रायल डिजाइन किया, जो एक तरह का प्रयोग है जिसमें लोगों को संयोग से समूहों में बांटा जाता है, जैसे टोपी से नाम निकालना, यह देखने के लिए कि कोई चीज वाकई काम करती है या नहीं।
- One group listened to slow, soothing ragas for the entire surgery; the other did not. एक समूह ने पूरी सर्जरी के दौरान धीमे, सुकून देने वाले राग सुने; दूसरे समूह ने नहीं।
- The results were telling: people who heard the music needed 15% less anaesthetic. नतीजे साफ थे: जिन्होंने संगीत सुना उन्हें 15% कम एनेस्थेटिक की जरूरत पड़ी।
- Their heart rates stayed steady, their blood pressure held firm, and stress hormone levels fell. उनकी हृदय गति स्थिर रही, ब्लड प्रेशर स्थिर रहा और तनाव हार्मोन का स्तर गिर गया।
- The study suggested that music helps patients heal with less strain and less medicine. अध्ययन ने सुझाया कि संगीत मरीजों को कम तनाव और कम दवा के साथ ठीक होने में मदद करता है।



Soundtrack under the scalpel चीरफाड़ के नीचे साउंडट्रैक

- The study, published in the October 2025 edition of the journal Music and Medicine, ran over 11 months. यह अध्ययन अक्टूबर 2025 में जर्नल म्यूजिक एंड मेडिसिन में प्रकाशित हुआ और 11 महीने तक चला।
- Fifty-six adults planning gallbladder removal, a common surgery to take out the small organ that holds digestive fluid used to break down fats, volunteered for this research. छप्पन वयस्क जिनकी पित्ताशय हटाने (गॉलब्लैडर रिमूवल) की सर्जरी थी – यह एक सामान्य सर्जरी है जिसमें वसा तोड़ने वाले पाचन तरल को रखने वाला छोटा अंग निकाला जाता है – ने इस शोध के लिए स्वयंसेवक बनना स्वीकार किया।
- The patients were split into two groups: one listened to soft flute and piano music during surgery; the other wore identical noise-cancellation headphones and were in silence. मरीजों को दो समूहों में बांटा गया: एक समूह ने सर्जरी के दौरान नरम बांसुरी और पियानो संगीत सुना; दूसरे समूह ने एक जैसे नाइज-कैंसिलेशन हेडफोन पहने और खामोशी में रहे।
- The music the researchers chose wasn't random. शोधकर्ताओं ने जो संगीत चुना वह यादृच्छिक नहीं था।
- It featured two Hindustani ragas: the bright, uplifting tones of Raga Yaman and the calm, soothing notes of Raga Kirvani. इसमें दो हिंदुस्तानी राग थे: राग यमन के उज्ज्वल, उत्साहवर्धक स्वर और राग किरवानी के शांत, सुकून देने वाले स्वर।



- They chose these ragas because they believed the tones could gently steer the body's "fight or flight" system, which raises heart rate and blood pressure under stress, towards a calmer and steadier state. उन्होंने इन रागों को इसलिए चुना क्योंकि उनका मानना था कि ये स्वर शरीर के "फाइट और फ्लाइट" सिस्टम – जो तनाव में हृदय गति और ब्लड प्रेशर बढ़ाता है – को धीरे से अधिक शांत और स्थिर स्थिति की ओर ले जा सकते हैं।
- "Since the ability to hear remains intact even under anaesthesia, we used music therapy to study its effect on the sympathetic system and stress modulators like cortisol," Dr. Wadhavan said. "चूंकि बेहोशी के दौरान भी सुनने की क्षमता बरकरार रहती है, हमने म्यूजिक थेरेपी का उपयोग सिम्पैथेटिक सिस्टम और कोर्टिसोल जैसे तनाव मॉड्यूलेटर्स पर इसके प्रभाव का अध्ययन करने के लिए किया," डॉ. वाधवान ने कहा।
- **And it worked.** और यह काम किया।
- **Patients who listened to the music needed, on average, about 15% less propofol, a fast-acting anaesthetic that puts you under in seconds and keeps you pain-free and perfectly still.** जिन मरीजों ने संगीत सुना, उन्हें औसतन 15% कम प्रोपोफॉल की जरूरत पड़ी, जो एक तेज़ असर वाली एनेस्थेटिक दवा है जो सेकंडों में बेहोश कर देती है और आपको दर्द-मुक्त तथा पूरी तरह स्थिर रखती है।
- **Not only that: their levels of cortisol, a hormone the body releases when it's stressed, were lower.** सिर्फ इतना ही नहीं: उनका कोर्टिसोल स्तर, जो तनाव में शरीर द्वारा निकाला जाने वाला हार्मोन है, कम था।
- **The participants also needed fewer painkillers and had steady blood pressure throughout the surgery.** प्रतिभागियों को कम दर्द निवारक दवाएं चाहिए पड़ीं और पूरी सर्जरी के दौरान उनका ब्लड प्रेशर स्थिर रहा।
- **"It was a eureka moment," said Tanvi Goel, principal investigator and anaesthesiologist at Lok Nayak Hospital and Maulana Azad Medical College.** "यह एक यूरेका मोमेंट था," तन्वी गोयल, मुख्य शोधकर्ता और लोक नायक अस्पताल तथा मौलाना आजाद मेडिकल कॉलेज की एनेस्थीसियोलॉजिस्ट, ने कहा।
- **"The music group not only required less anaesthesia but their stress levels were significantly lower."** "संगीत समूह को न सिर्फ कम एनेस्थीसिया की जरूरत पड़ी बल्कि उनका तनाव स्तर भी काफी कम था।"
- **Even under anaesthesia, the brain doesn't shut down.** बेहोशी के दौरान भी दिमाग पूरी तरह बंद नहीं होता।
- **The auditory cortex still registers sound, catching rhythm and tone.** ऑडिटरी कॉर्टेक्स अभी भी ध्वनि को रजिस्टर करता है, लय और स्वर को पकड़ता है।
- **As surgery begins — with its pokes, pricks, and cuts — the body's stress systems stir.** जैसे ही सर्जरी शुरू होती है — चुभन, टीके और कट के साथ — शरीर के तनाव तंत्र जागृत हो जाते हैं।
- **The levels of cortisol and other hormones rise, pushing up blood pressure and blood sugar to cope with the strain.** कोर्टिसोल और अन्य हार्मोन का स्तर बढ़ जाता है, जिससे ब्लड प्रेशर और ब्लड शुगर बढ़ जाता है ताकि तनाव का सामना किया जा सके।
- **The person feels nothing but the body still braces.** व्यक्ति को कुछ महसूस नहीं होता लेकिन शरीर अभी भी सतर्क हो जाता है।
- **Music seems to mellow this response, releasing endorphins and oxytocin to steady the heart, ease stress, and support healing.** संगीत इस प्रतिक्रिया को नरम कर देता है, एंडोर्फिन और ऑक्सीटोसिन रिलीज करके हृदय को स्थिर करता है, तनाव कम करता है और उपचार में मदद करता है।
- **"It's non-pharmacological, low-cost, and safe," said Farah Husain, co-investigator and a certified music therapist.** "यह गैर-औषधीय, कम खर्चीला और सुरक्षित है," फराह हुसैन, सह-शोधकर्ता और प्रमाणित म्यूजिक थेरेपिस्ट, ने कहा।
- **"All it needs is a Bluetooth device and a pair of headphones. There's no side-effect, only potential benefits."** "इसके लिए सिर्फ एक ब्लूटूथ डिवाइस और हेडफोन की जोड़ी चाहिए। कोई साइड इफेक्ट नहीं, सिर्फ संभावित लाभ हैं।"

Complementary approaches पूरक उपाय



- Alex Street is a senior research fellow at the Cambridge Institute for Music Therapy Research in the UK. एलेक्स स्ट्रीट ब्रिटेन के कैंब्रिज इंस्टीट्यूट फॉर म्यूजिक थेरेपी रिसर्च में सीनियर रिसर्च फेलो हैं।
- He studies how music stirs the brain, the nervous system, and emotions, and how it can be used in real therapy. वे अध्ययन करते हैं कि संगीत दिमाग, तंत्रिका तंत्र और भावनाओं को कैसे प्रभावित करता है और वास्तविक चिकित्सा में कैसे इस्तेमाल किया जा सकता है।
- “What needs to happen is medicine always has to have a non-medical adjunct,” Dr. Street said. “होना यह चाहिए कि चिकित्सा के साथ हमेशा एक गैर-चिकित्सीय सहायक हो,” डॉ. स्ट्रीट ने कहा।
- “Complementary approaches like music can reduce the need for medications that often have nasty side effects.” “संगीत जैसे पूरक उपाय उन दवाओं की जरूरत कम कर सकते हैं जिनके अक्सर गंभीर साइड इफेक्ट्स होते हैं।”
- For instance, fentanyl is a synthetic opioid often used to control severe pain during surgery. उदाहरण के लिए, फेंटैनील एक सिंथेटिक ओपियोइड है जिसका उपयोग सर्जरी में गंभीर दर्द नियंत्रित करने के लिए किया जाता है।
- But just 2 mg of fentanyl can kill an adult human. लेकिन सिर्फ 2 मिलीग्राम फेंटैनील एक वयस्क इंसान को मार सकता है।
- It has become the leading cause of death for Americans aged 18 to 45, surpassing car accidents and gun violence. यह 18 से 45 साल के अमेरिकियों के लिए मौत का सबसे बड़ा कारण बन गया है, कार दुर्घटनाओं और बंदूक हिंसा को भी पीछे छोड़ते हुए।
- This is part of the opioid crisis, driven by the overuse of powerful painkillers. यह ओपियोइड संकट का हिस्सा है, जो शक्तिशाली दर्द निवारकों के अत्यधिक उपयोग से उत्पन्न हुआ है।
- The epidemic shows why gentler ways to ease pain and stress are needed now more than ever. यह महामारी दिखाती है कि दर्द और तनाव कम करने के लिए नरम तरीकों की जरूरत अब पहले से कहीं अधिक है।
- In the Lok Nayak Hospital study, patients who listened to soothing music needed less fentanyl during surgery, लोक नायक अस्पताल के अध्ययन में, जिन मरीजों ने सुकून देने वाला संगीत सुना, उन्हें सर्जरी के दौरान कम फेंटैनील की जरूरत पड़ी,
- signalling that non-drug approaches could reduce reliance on powerful painkillers. यह संकेत देता है कि गैर-दवा उपाय शक्तिशाली दर्द निवारकों पर निर्भरता कम कर सकते हैं।
- Dr. Street added a practical reminder: that patients still need to hear the surgical team, even when the music plays. डॉ. स्ट्रीट ने एक व्यावहारिक याद दिलाई: संगीत चलने के बावजूद मरीज को सर्जिकल टीम की बातें सुनाई देनी चाहिए।
- “You can’t just block everything out with noise-cancelling headphones,” he said. “आप नॉइज़-कैंसिलिंग हेडफोन से सब कुछ ब्लॉक नहीं कर सकते,” उन्होंने कहा।
- “The patient needs to be able to hear what people are saying.” “मरीज को लोगों की बातें सुनने में सक्षम होना चाहिए।”
- The Delhi team now hopes to test their music experiment with more surgeries and larger groups. दिल्ली टीम अब अधिक सर्जरी और बड़े समूहों के साथ अपने संगीत प्रयोग की जांच करने की उम्मीद रखती है।
- In a country where hospitals overflow and resources are stretched thin, every drop of drug and every minute saved can ease costs, speed recovery, and free beds. ऐसे देश में जहां अस्पताल खचाखच भरे रहते हैं और संसाधन सीमित हैं, हर बूंद दवा और हर मिनट की बचत खर्च कम कर सकती है, रिकवरी तेज कर सकती है और बेड खाली कर सकती है।
- That image of a patient on an operating table with headsets on may soon feel less like science fiction and more like standard care. ऑपरेशन टेबल पर हेडसेट लगाए मरीज की वह तस्वीर जल्द ही विज्ञान-कथा कम और मानक देखभाल अधिक लगने लगेगी।



Caged birds sing

GS III: S&T



Q: Do animals have mental health problems?

A: Many scientists believe at least some animals can have problems that are similar

to human mental health disorders. We can't ask them how they feel, so we look for **changes in behaviour, body chemistry, and brain activity** that match what we see in stressed or unwell humans.

Some companion animals make for clear examples. Some dogs develop separation anxiety: they panic when their humans leave them alone, bark continuously, destroy objects or harm themselves. Others have been known to display behaviour resembling depression after a bereavement, becoming withdrawn, inactive, and losing their appetite. Veterinarians sometimes use anti-anxiety or antidepressant drugs, along with training and changes in the home, to help them.

Wild and captive animals have also been known to show patterns of concern. Zoo primates kept in bare or crowded enclosures may pace in circles, rock back and forth, and/or bite themselves. Captive elephants often sway for hours. Parrots in small cages sometimes pluck out their feathers. These repetitive, seemingly purposeless actions are called stereotypies and are often linked to long-term stress and frustration. Brain and hormone studies have also suggested continuity with humans. Stressed animals have raised levels of



Parrots in small cages sometimes pluck out their feathers, an action linked to long-term stress.

Representative image. OJASWI PRATAP SINGH/UNSPLASH

stress hormones such as cortisol and have changes in brain chemicals such as serotonin.

This said, scientists are careful not to simply copy human labels like "depression" or "schizophrenia" onto animals. Instead, the main idea is that animals can suffer mentally, especially in poor environments, and that the evidence supports better housing, social contact, and enrichment to protect their welfare.



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Do animals have mental health problems?

क्या जानवरों को मानसिक स्वास्थ्य समस्याएं होती हैं?

- **Many scientists believe at least some animals can have problems that are similar to human mental health disorders.** कई वैज्ञानिकों का मानना है कि कम से कम कुछ जानवरों को ऐसी समस्याएं हो सकती हैं जो **मानव मानसिक स्वास्थ्य विकारों** से मिलती-जुलती हैं।
- **We can't ask them how they feel, so we look for changes in behaviour, body chemistry, and brain activity that match what we see in stressed or unwell humans.** हम उनसे नहीं



पूछ सकते कि वे कैसा महसूस कर रहे हैं, इसलिए हम **व्यवहार, शारीरिक रसायन और मस्तिष्क गतिविधि** में बदलाव देखते हैं जो तनावग्रस्त या बीमार **इंसानों** में दिखते हैं।

- **Some companion animals make for clear examples.** कुछ पालतू जानवर स्पष्ट उदाहरण देते हैं।
- **Some dogs develop separation anxiety: they panic when their humans leave them alone, bark continuously, destroy objects or harm themselves.** कुछ कुत्तों में **सेपरेशन एंगजायटी** विकसित हो जाती है: जब उनके मालिक उन्हें अकेला छोड़ते हैं तो वे घबरा जाते हैं, लगातार भौंकते हैं, चीजें नष्ट करते हैं या खुद को नुकसान पहुंचाते हैं।
- **Others have been known to display behaviour resembling depression after a bereavement, becoming withdrawn, inactive, and losing their appetite.** कुछ अन्य किसी प्रियजन की मृत्यु के बाद **डिप्रेशन** जैसा व्यवहार दिखाते हैं, एकांतप्रिय हो जाते हैं, निष्क्रिय रहते हैं और भूख खो देते हैं।
- **Veterinarians sometimes use anti-anxiety or antidepressant drugs, along with training and changes in the home, to help them.** पशु चिकित्सक कभी-कभी **एंटी-एंगजायटी** या **एंटीडिप्रेंसेंट दवाएं**, साथ ही प्रशिक्षण और घर में बदलाव करके उनकी मदद करते हैं।
- **Wild and captive animals have also been known to show patterns of concern.** जंगली और कैद जानवरों में भी चिंता के पैटर्न देखे गए हैं।
- **Zoo primates kept in bare or crowded enclosures may pace in circles, rock back and forth, and/or bite themselves.** चिड़ियाघर के **प्राइमेट्स** जो खाली या भीड़भाड़ वाले बाड़ों में रखे जाते हैं, गोल-गोल चक्कर लगाते हैं, आगे-पीछे झूलते हैं और/या खुद को काटते हैं।
- **Captive elephants often sway for hours.** कैद में रखे **हाथी** अक्सर घंटों तक डोलते रहते हैं।
- **Parrots in small cages sometimes pluck out their feathers.** छोटे पिंजरों में **तोते** कभी-कभी अपने पंख नोच लेते हैं।
- **These repetitive, seemingly purposeless actions are called stereotypies and are often linked to long-term stress and frustration.** ये दोहराव वाली, बिना उद्देश्य वाली हरकतें **स्टिरियोटाइपीज** कहलाती हैं और अक्सर **लंबे समय के तनाव** और कुंठा से जुड़ी होती हैं।
- **Brain and hormone studies have also suggested continuity with humans.** मस्तिष्क और हार्मोन अध्ययनों ने भी इंसानों से समानता दिखाई है।
- **Stressed animals have raised levels of stress hormones such as cortisol and have changes in brain chemicals such as serotonin.** तनावग्रस्त जानवरों में **कोर्टिसोल** जैसे तनाव हार्मोन का स्तर बढ़ा होता है और **सेरोटोनिन** जैसे मस्तिष्क रसायनों में बदलाव होते हैं।
- **This said, scientists are careful not to simply copy human labels like “depression” or “schizophrenia” onto animals.** इसके बावजूद **वैज्ञानिक** सावधानी बरतते हैं कि **“डिप्रेशन”** या **“सिजोफ्रेनिया”** जैसे मानव लेबल सीधे जानवरों पर न चिपकाएं।
- **Instead, the main idea is that animals can suffer mentally, especially in poor environments,** बल्कि मुख्य विचार यह है कि जानवर **मानसिक रूप से पीड़ा** झेल सकते हैं, खासकर खराब परिस्थितियों में,
- **and that the evidence supports better housing, social contact, and enrichment to protect their welfare.** और सबूत यह समर्थन करते हैं कि उनकी **कल्याण** के लिए बेहतर आवास, सामाजिक संपर्क और **एनरिचमेंट** जरूरी है।





The myth of the 'normal': what does your lab report really mean?

Every lab report for continuous variables includes a reference range, which is often mistaken to be the normal range. Laboratories use the term 'reference' because the range is statistical, not absolute. This is why falling outside the reference range doesn't always indicate disease

SSMSSS
C. Aravinda

When the U.S. wrestler and actor Dwayne "The Rock" Johnson was in his prime, his Body Mass Index (BMI) was around 33 kg/m², technically 'obese' by World Health Organization (WHO) standards. Yet no one watching him could call him unhealthy. This paradox is one glimpse of how numbers alone can't be used to define good human health.

For many years, the WHO has used universal BMI cut-offs: over 25 kg/m² for 'overweight' and 30 kg/m² for 'obesity'. But research in Asian populations has revealed that even at lower BMI levels, people developed diabetes and heart disease more often. Recognising these ethnic differences in fat distribution, the WHO revised the 'normal' upper limit for many Asian countries to 23 kg/m². Thus, 'normal' health is not fixed or global but a shifting statistical boundary shaped by population data and biological diversity.

The reference range

Every lab report for continuous variables includes a reference range, which is often mistaken to be the normal range. Laboratories use the term 'reference' because the range is statistical, not absolute. This means it's derived from the test results of a large number of individuals. When these values are plotted on a graph, they form a bell-shaped curve, with most results clustering near the average and fewer at the extremes. The reference interval is the central 95% of this distribution, meaning 95 out of 100 healthy people fall within it, while 5% lie outside it. This is why falling outside the reference range doesn't always indicate disease – nor does falling within guarantee good health. It's only a guide, rather than a definitive boundary of normalcy.

Diagnosing disease would be simple if health and illness were cleanly separated,

the way India and Sri Lanka are separated by the Palk Strait. But biology resembles the Tamil Nadu-Kerala border: fluid and gradual, without a clear point where Tamil-speaking people end and Malayalam-speaking people begin. In the border villages, both languages mingle and one shades into the other. Similarly, no single value separates health from disease with precision.

Consider diabetes: when the fasting blood glucose levels of thousands of people are plotted on a graph, the healthy and the diabetic curves merge smoothly. The diagnostic cut-off of 126 mg/dl wasn't a mathematical discovery but a practical compromise; there's no fixed line beyond which a person suddenly becomes diabetic. Clinicians draw a line only for practical purposes, and assume that beyond that limit, the risk of complications such as diabetic retinopathy rise sharply.

Put another way, all such medical boundaries balance the two concepts of sensitivity and specificity. A lower threshold would detect all true cases but falsely label many healthy ones, increasing the number of false positives; vice versa for a higher threshold. No test in medicine is 100% sensitive and 100% specific at the same time. Since no test is perfectly accurate, the chosen cut-off reflects medical judgment shaped by a disease's severity, prevalence, and social consequences. For serious yet treatable conditions, clinicians prefer caution and accept more false positives; for mild or stigmatising ones, they raise the bar to avoid overdiagnosis. Every cut-off in medicine is thus a negotiation and, for that reason, they must be regularly revisited.

Mathematics of normalcy

Not all biological measures vary equally. Sodium and potassium can vary within very tight limits because even small deviations from this range can disrupt muscle or nerve function. On the other

hand, cholesterol and liver enzymes can vary across a wider range of values; their smaller changes reflect only incidental changes, such as the person's water intake on that day. Hormones are even more dynamic, fluctuating with time of day, age, sex, stress, and nutrition. Interpreting the corresponding numbers on a lab report thus demands more than just numeracy. To do so, a health worker must understand when the sample was collected, how it was tested, and what the patient's clinical picture reveals (or has already revealed).

Every reference range is also determined using a particular mathematical process, and understanding this process can allow health workers to make more informed decisions. Among other things, the distribution of the values of a medical variable is assumed to follow the "68-95-99.7" rule. For instance, if health workers collect blood samples from a number of people and find that the average value is 70 and the standard deviation is 10, the rule says that about 68% of samples score 60-80, about 95% score 50-90, and about 99.7% score 40-100. In other words, the rule helps to visualise how 'spread out' the possible values are and how rare it is for a value to fall far from the mean.

The catch here is that not all biological data are symmetrical, that is, fall with equal probability on either side of the mean. For instance, most hormone-related readings are low while a few are extremely high. In such cases, labs select values from the third or the 97th percentiles. For this, they need at least 120 health samples, otherwise their tests won't be reliable.

Local data matters

When we call something "normal," we rarely ask, "normal for whom?"

Laboratory reference ranges are not universal truths but reflect the populations they study. Some parameters, like height, vary widely across gender and

ethnicity. A Scandinavian and a South Indian may differ greatly yet both be healthy. People's nutritional and metabolic needs change with age, gender, race, and even occupation. 'Normal' haemoglobin or lipid related values depend on genetics, diet, and the environment. Men have higher red blood cell counts; Africans have lower white cell counts; and Himalayan populations have more haemoglobin. On the other hand, physiological constants such as heart rate or kidney filtration vary little worldwide.

As a result, medical interpretation in India demands that we recognise these differences rather than borrow benchmarks wholesale from the West. Unfortunately, for many common laboratory parameters, including haemoglobin, no large, authoritative Indian reference studies exist. As a result, we risk both over diagnosing and underdiagnosing disease.

Clinical correlates

The reference ranges are not natural: they are statistical constructs that people put together by testing others in particular circumstances, with particular assumptions. At the bottom of every lab report is a line written keeping this fact in mind: "Please correlate with clinical findings." To correlate clinically means to bring a number back into the world of people, that is, to listen to a patient's story, examine them, and interpret the number in their full context.

For example, a high BMI may signal overweight or, on the positive side, increased muscle mass, which is often the case with athletes. Similarly a borderline thyroid reading may reflect an illness or it could be a normal physiological variation. Ultimately, health workers must go in with a measure of humility that focuses as much on the term "range" as on "reference".

Dr. C. Aravinda is an academic and public health physician. The views expressed here are personal.

The myth of the 'normal': what does your lab report really mean?

'नॉर्मल' का मिथक: आपकी लैब रिपोर्ट का वास्तविक अर्थ क्या है?

- **When the U.S. wrestler and actor Dwayne "The Rock" Johnson was in his prime, his Body Mass Index (BMI) was around 33 kg/m², technically 'obese' by World Health Organization (WHO) standards.** जब अमेरिकी पहलवान और अभिनेता ड्वेन "द रॉक" जॉनसन अपने चरम पर थे, तब उनका बॉडी मास इंडेक्स (BMI) लगभग 33 किग्रा/मी² था, जो विश्व स्वास्थ्य संगठन (WHO) मानकों के अनुसार तकनीकी रूप से 'मोटापा' था।
- **Yet no one watching him could call him unhealthy.** फिर भी उन्हें देखने वाला कोई भी उन्हें अस्वस्थ नहीं कह सकता था।
- **This paradox is one glimpse of how numbers alone can't be used to define good human health.** यह विरोधाभास एक झलक है कि केवल संख्याओं से अच्छे मानव स्वास्थ्य को परिभाषित नहीं किया जा सकता।
- **For many years, the WHO has used universal BMI cut-offs: over 25 kg/m² for 'overweight' and 30 kg/m² for 'obesity'.** कई वर्षों से, WHO ने सार्वभौमिक BMI कट-ऑफ इस्तेमाल किए हैं: 25 किग्रा/मी² से अधिक को 'अधिक वजन' और 30 किग्रा/मी² को 'मोटापा'।





- But research in Asian populations has revealed that even at lower BMI levels, people developed diabetes and heart disease more often. लेकिन एशियाई आबादी में शोध ने खुलासा किया कि कम BMI स्तर पर भी लोगों को मधुमेह और हृदय रोग अधिक बार हो रहे थे।
- Recognising these ethnic differences in fat distribution, the WHO revised the 'normal' upper limit for many Asian countries to 23 kg/m². वसा वितरण में इन जातीय अंतरों को मानते हुए, WHO ने कई एशियाई देशों के लिए 'सामान्य' ऊपरी सीमा को 23 किग्रा/मी² कर दिया।
- Thus, 'normal' health is not fixed or global but a shifting statistical boundary shaped by population data and biological diversity. इस प्रकार, 'सामान्य' स्वास्थ्य निश्चित या वैश्विक नहीं है बल्कि जनसंख्या डेटा और जैविक विविधता द्वारा आकारित एक बदलती सांख्यिकीय सीमा है।

The reference range

संदर्भ सीमा

- Every lab report for continuous variables includes a reference range, which is often mistaken to be the normal range. हर लैब रिपोर्ट में निरंतर चर के लिए एक **संदर्भ सीमा** होती है, जिसे अक्सर सामान्य सीमा समझ लिया जाता है।
- Laboratories use the term 'reference' because the range is statistical, not absolute. प्रयोगशालाएं 'संदर्भ' शब्द इस्तेमाल करती हैं क्योंकि सीमा सांख्यिकीय है, पूर्ण नहीं।
- This means it's derived from the test results of a large number of individuals. इसका मतलब है कि यह बड़ी संख्या में व्यक्तियों के परीक्षण परिणामों से निकाली जाती है।
- When these values are plotted on a graph, they form a bell-shaped curve, with most results clustering near the average and fewer at the extremes. जब इन मानों को ग्राफ पर प्लॉट किया जाता है, तो वे घंटी आकार की वक्र बनाते हैं, जिसमें अधिकांश परिणाम औसत के पास समूहित होते हैं और चरम पर कम।
- The reference interval is the central 95% of this distribution, meaning 95 out of 100 healthy people fall within it, while 5% lie outside it. **संदर्भ अंतराल** इस वितरण का मध्य 95% है, मतलब 100 स्वस्थ लोगों में से 95 इसके अंदर आते हैं, जबकि 5% बाहर।
- This is why falling outside the reference range doesn't always indicate disease — nor does falling within guarantee good health. यही कारण है कि संदर्भ सीमा के बाहर होना हमेशा रोग नहीं दर्शाता — न ही अंदर होना अच्छे स्वास्थ्य की गारंटी देता है।
- It's only a guide, rather than a definitive boundary of normalcy. यह केवल एक मार्गदर्शक है, सामान्यता की निश्चित सीमा नहीं।
- Diagnosing disease would be simple if health and illness were cleanly separated, the way India and Sri Lanka are separated by the Park Strait. रोग निदान आसान होता यदि स्वास्थ्य और बीमारी स्पष्ट रूप से अलग होते, जैसे भारत और श्रीलंका **पाक जलडमरूमध्य** से अलग हैं।
- But biology resembles the Tamil Nadu-Kerala border: fluid and gradual, without a clear point where Tamil-speaking people end and Malayalam-speaking people begin. लेकिन जीवविज्ञान **तमिलनाडु-केरल सीमा** जैसा है: तरल और क्रमिक, बिना स्पष्ट बिंदु जहां तमिल बोलने वाले खत्म होते हैं और मलयालम बोलने वाले शुरू होते हैं।
- In the border villages, both languages mingle and one shades into the other. सीमावर्ती गांवों में दोनों भाषाएं मिलती-जुलती हैं और एक दूसरे में घुलती हैं।
- Similarly, no single value separates health from disease with precision. इसी तरह, कोई एकल मान स्वास्थ्य को रोग से सटीक रूप से अलग नहीं करता।
- Consider diabetes: when the fasting blood glucose levels of thousands of people are plotted on a graph, the healthy and the diabetic curves merge smoothly. मधुमेह को लें: जब हजारों लोगों के उपवास रक्त ग्लूकोज स्तर को ग्राफ पर प्लॉट किया जाता है, तो स्वस्थ और मधुमेही वक्र सुचारू रूप से विलीन हो जाते हैं।
- The diagnostic cut-off of 126 mg/dl wasn't a mathematical discovery but a practical compromise; there's no fixed line beyond which a person suddenly becomes diabetic. **126 मिलीग्राम/डीएल** का निदान कट-ऑफ गणितीय खोज नहीं बल्कि व्यावहारिक समझौता था; कोई निश्चित रेखा नहीं है जिसके बाद व्यक्ति अचानक मधुमेही हो जाता है।



- **Clinicians draw a line only for practical purposes, and assume that beyond that limit, the risk of complications such as diabetic retinopathy rise sharply.** चिकित्सक व्यावहारिक उद्देश्यों के लिए रेखा खींचते हैं, और मानते हैं कि उस सीमा के बाद **डायबिटिक रेटिनोपैथी** जैसी जटिलताओं का जोखिम तेजी से बढ़ता है।
- **Put another way, all such medical boundaries balance the two concepts of sensitivity and specificity.** दूसरे शब्दों में, सभी ऐसी चिकित्सीय सीमाएं **संवेदनशीलता** और **विशिष्टता** के दो अवधारणाओं को संतुलित करती हैं।
- **A lower threshold would detect all true cases but falsely label many healthy ones, increasing the number of false positives; vice versa for a higher threshold.** कम थ्रेशोल्ड सभी सच्चे मामलों का पता लगाएगा लेकिन कई स्वस्थ को गलत लेबल करेगा, **फॉल्स पॉजिटिव** बढ़ाएगा; ऊंचे थ्रेशोल्ड के लिए उल्टा।
- **No test in medicine is 100% sensitive and 100% specific at the same time.** चिकित्सा में कोई परीक्षण एक साथ **100% संवेदनशील** और **100% विशिष्ट** नहीं होता।
- **Since no test is perfectly accurate, the chosen cut-off reflects medical judgment shaped by a disease's severity, prevalence, and social consequences.** चूंकि कोई परीक्षण पूर्णतः सटीक नहीं है, चुना गया कट-ऑफ चिकित्सीय निर्णय को दर्शाता है जो रोग की गंभीरता, प्रचलन और सामाजिक परिणामों से आकारित होता है।
- **For serious yet treatable conditions, clinicians prefer caution and accept more false positives; for mild or stigmatising ones, they raise the bar to avoid overdiagnosis.** गंभीर लेकिन इलाज योग्य स्थितियों के लिए, चिकित्सक सावधानी पसंद करते हैं और अधिक **फॉल्स पॉजिटिव** स्वीकार करते हैं; हल्की या कलंकित करने वाली के लिए वे बार ऊंचा करते हैं ताकि अति-निदान से बचें।
- **Every cut-off in medicine is thus a negotiation and, for that reason, they must be regularly revisited.** इसलिए चिकित्सा में हर कट-ऑफ एक समझौता है और इसी कारण उन्हें नियमित रूप से पुनर्मूल्यांकन करना चाहिए।

Mathematics of normalcy

सामान्यता का गणित

- **Not all biological measures vary equally.** सभी जैविक माप समान रूप से भिन्न नहीं होते।
- **Sodium and potassium can vary within very tight limits because even small deviations from this range can disrupt muscle or nerve function.** **सोडियम** और **पोटेशियम** बहुत संकीर्ण सीमाओं में ही भिन्न हो सकते हैं क्योंकि इस सीमा से छोटा सा विचलन भी मांसपेशी या तंत्रिका कार्य को बाधित कर सकता है।
- **On the other hand, cholesterol and liver enzymes can vary across a wider range of values: their smaller changes reflect only incidental changes, such as the person's water intake on that day.** दूसरी ओर, **कोलेस्ट्रॉल** और **लिवर एंजाइम** मूल्यों की बहुत व्यापक सीमा में भिन्न हो सकते हैं: उनके छोटे बदलाव केवल संयोगवश होते हैं, जैसे उस दिन व्यक्ति का पानी का सेवन।
- **Hormones are even more dynamic, fluctuating with time of day, age, sex, stress, and nutrition.** **हार्मोन** और भी अधिक गतिशील होते हैं, जो दिन के समय, उम्र, लिंग, तनाव और पोषण के साथ उतार-चढ़ाव करते हैं।
- **Interpreting the corresponding numbers on a lab report thus demands more than just numeracy.** इसलिए लैब रिपोर्ट में इन संबद्ध संख्याओं की व्याख्या केवल संख्यात्मकता से अधिक मांगती है।
- **To do so, a health worker must understand when the sample was collected, how it was tested, and what the patient's clinical picture reveals (or has already revealed).** ऐसा करने के लिए स्वास्थ्य कार्यकर्ता को समझना चाहिए कि नमूना कब लिया गया, कैसे परीक्षण किया गया, और रोगी की क्लिनिकल तस्वीर क्या बताती है (या पहले से बता चुकी है)।
- **Every reference range is also determined using a particular mathematical process, and understanding this process can allow health workers to make more informed decisions.** हर **संदर्भ सीमा** एक विशेष गणितीय प्रक्रिया से निर्धारित होती है, और इस प्रक्रिया को समझने से स्वास्थ्य कार्यकर्ता अधिक सूचित निर्णय ले सकते हैं।
- **Among other things, the distribution of the values of a medical variable is assumed to follow the "68-95-99.7" rule.** अन्य बातों के साथ, चिकित्सीय चर के मूल्यों का वितरण **"68-95-99.7"** नियम का पालन करता माना जाता है।



- For instance, if health workers collect blood samples from a number of people and find that the average value is 70 and the standard deviation is 10, the rule says that about 68% of samples score 60-80, about 95% score 50-90, and about 99.7% score 40-100. उदाहरण के लिए, यदि स्वास्थ्य कार्यकर्ता कई लोगों से रक्त नमूने लेते हैं और पाते हैं कि औसत मान 70 है और मानक विचलन 10 है, तो नियम कहता है कि लगभग 68% नमूने 60-80, लगभग 95% 50-90, और लगभग 99.7% 40-100 के बीच होंगे।
- In other words, the rule helps to visualise how 'spread out' the possible values are and how rare it is for a value to fall far from the mean. दूसरे शब्दों में, यह नियम दर्शाता है कि संभावित मान कितने 'फैले हुए' हैं और औसत से बहुत दूर मान का गिरना कितना दुर्लभ है।
- The catch here is that not all biological data are symmetrical, that is, fall with equal probability on either side of the mean. पकड़ यह है कि सभी जैविक डेटा सममित नहीं होते, अर्थात् औसत के दोनों तरफ समान संभावना से नहीं गिरते।
- For instance, most hormone-related readings are low while a few are extremely high. उदाहरण के लिए, अधिकांश हार्मोन-संबंधी रीडिंग कम होती हैं जबकि कुछ अत्यधिक ऊंची होती हैं।
- In such cases, labs select values from the third or the 97th percentiles. ऐसे मामलों में लैब तीसरे या 97वें परसेंटाइल से मान चुनती हैं।
- For this, they need at least 120 health samples, otherwise their tests won't be reliable. इसके लिए उन्हें कम से कम 120 स्वस्थ नमूने चाहिए, वरना उनके परीक्षण विश्वसनीय नहीं होंगे।

Local data matters

स्थानीय डेटा महत्वपूर्ण है

- When we call something "normal," we rarely ask, "normal for whom?". जब हम किसी चीज को "सामान्य" कहते हैं, तो हम शायद ही पूछते हैं, "किसके लिए सामान्य?"।
- Laboratory reference ranges are not universal truths but reflect the populations they study. प्रयोगशाला संदर्भ सीमाएं सार्वभौमिक सत्य नहीं हैं बल्कि जिन आबादियों का अध्ययन किया गया है, उन्हें प्रतिबिंबित करती हैं।
- Some parameters, like height, vary widely across gender and ethnicity. कुछ पैरामीटर, जैसे ऊंचाई, लिंग और जातीयता में बहुत भिन्न होते हैं।
- A Scandinavian and a South Indian may differ greatly yet both be healthy. एक स्कैंडिनेवियाई और एक दक्षिण भारतीय में बहुत अंतर हो सकता है फिर भी दोनों स्वस्थ हो सकते हैं।
- People's nutritional and metabolic needs change with age, gender, race, and even occupation. लोगों की पोषण और चयापचय आवश्यकताएं उम्र, लिंग, नस्ल और यहां तक कि व्यवसाय के साथ बदलती हैं।
- 'Normal' haemoglobin or lipid related values depend on genetics, diet, and the environment. 'सामान्य' हीमोग्लोबिन या लिपिड संबंधी मान आनुवंशिकी, आहार और पर्यावरण पर निर्भर करते हैं।
- Men have higher red blood cell counts; Africans have lower white cell counts; and Himalayan populations have more haemoglobin. पुरुषों में लाल रक्त कोशिकाओं की संख्या अधिक होती है; अफ्रीकियों में श्वेत कोशिकाओं की संख्या कम होती है; और हिमालयी आबादी में हीमोग्लोबिन अधिक होता है।
- On the other hand, physiological constants such as heart rate or kidney filtration vary little worldwide. दूसरी ओर, हृदय गति या गुर्दा निस्पंदन जैसे शारीरिक स्थिरांक विश्व स्तर पर बहुत कम भिन्न होते हैं।
- As a result, medical interpretation in India demands that we recognise these differences rather than borrow benchmarks wholesale from the West. परिणामस्वरूप, भारत में चिकित्सीय व्याख्या मांगती है कि हम इन अंतरों को पहचानें न कि पश्चिम से मानक थोक में उधार लें।
- Unfortunately, for many common laboratory parameters, including haemoglobin, no large, authoritative Indian reference studies exist. दुर्भाग्य से, हीमोग्लोबिन सहित कई सामान्य प्रयोगशाला पैरामीटरों के लिए कोई बड़े, प्रामाणिक भारतीय संदर्भ अध्ययन मौजूद नहीं हैं।
- As a result, we risk both over diagnosing and underdiagnosing disease. परिणामस्वरूप, हम रोगों का अति-निदान और अल्प-निदान दोनों का जोखिम उठाते हैं।



Clinical correlates

क्लिनिकल सहसंबंध

- **The reference ranges are not natural: they are statistical constructs that people put together by testing others in particular circumstances, with particular assumptions.** संदर्भ सीमाएं प्राकृतिक नहीं हैं: वे सांख्यिकीय संरचनाएं हैं जिन्हें लोग विशेष परिस्थितियों में, विशेष धारणाओं के साथ दूसरों का परीक्षण करके बनाते हैं।
- **At the bottom of every lab report is a line written keeping this fact in mind: "Please correlate with clinical findings."** हर लैब रिपोर्ट के नीचे एक पंक्ति इस तथ्य को ध्यान में रखकर लिखी होती है: "कृपया क्लिनिकल निष्कर्षों से सहसंबंधित करें।"
- **To correlate clinically means to bring a number back into the world of people, that is, to listen to a patient's story, examine them, and interpret the number in their full context.** क्लिनिकल सहसंबंध का अर्थ है संख्या को लोगों की दुनिया में वापस लाना, अर्थात् रोगी की कहानी सुनना, उनका परीक्षण करना और संख्या को उनके पूर्ण संदर्भ में व्याख्या करना।
- **For example, a high BMI may signal overweight or, on the positive side, increased muscle mass, which is often the case with athletes.** उदाहरण के लिए, उच्च BMI अधिक वजन का संकेत दे सकता है या सकारात्मक रूप से बढ़ी हुई मांसपेशी द्रव्यमान, जो अक्सर एथलीटों के मामले में होता है।
- **Similarly a borderline thyroid reading may reflect an illness or it could be a normal physiological variation.** इसी तरह सीमावर्ती थायरॉइड रीडिंग किसी बीमारी को दर्शा सकती है या यह सामान्य शारीरिक विविधता हो सकती है।
- **Ultimately, health workers must go in with a measure of humility that focuses as much on the term "range" as on "reference".** अंततः, स्वास्थ्य कार्यकर्ताओं को इतनी विनम्रता के साथ आगे बढ़ना चाहिए जो "रेंज" शब्द पर उतना ही ध्यान दे जितना "संदर्भ" पर।

Questions and Answers to the previous day's daily quiz: 1. Lunokhod

1 landed on this lunar sea. **Ans: Mare Imbrium or Sea of Rains**

2. Lunokhod 1 used this to stay warm during the frigid lunar night. **Ans: A polonium-210 radioisotope heater unit**

3. The period for which Lunokhod 1 operated on the moon. **Ans: About 321 days**

4. The length for which Lunokhod 1 travelled on the lunar surface. **Ans: 10,540 metres (6.55 miles)**

5. Number of high-resolution panoramas Lunokhod 1 sent to earth. **Ans: 206 high-resolution panoramas**

Visual: Name the mission depicted here.

Ans: Luna 17 (which carried the Lunokhod 1 rover)

Early Birds: Siddhartha Viswanathan| Tom Alan Faith| Arun Kumar Singh| Parimal Das| Sudhir Thapa

November 10, 1970, from the Baikonur Cosmodrome in Kazakhstan using a Proton rocket.

Landing Site: Mare Imbrium (Sea of Rains)

QUIZ

Lunokhod 1: The First Lunar Rover Mission

- **Lunokhod 1** was a groundbreaking Soviet robotic lunar rover, marking humanity's first successful attempt to operate a mobile vehicle on another celestial body.
- Launched as part of the Soviet Union's Luna program during the height of the Space Race, it represented a leap in remote exploration technology.
- The rover's deployment was a feat of engineering, allowing scientists on Earth to control it in real-time and gather invaluable data about the Moon's surface.

Historical Background

- The Lunokhod program emerged in the late 1960s as the Soviet Union sought to expand its lunar ambitions beyond flybys and sample returns.
- **Lunokhod 1**, specifically, was the second attempt after the failed **Lunokhod 0** (also known as Lunokhod 1A or No. 201) in February 1969, which exploded during launch due to a rocket malfunction.
- The successful mission aboard **Luna 17** was launched on



- **Mare Imbrium**, Latin for "Sea of Rains," is one of the **Moon's largest impact basins**, spanning about **1,145 km** in diameter.
- Formed by **a massive asteroid collision around 3.9 billion years ago, it filled with basaltic lava, creating a flat, dark plain visible from Earth as part of the Moon's "face."**

Lunokhod 1: The Polonium-210 Radioisotope Heater Unit

- **The Polonium-210 Radioisotope Heater Unit (RHU) in Lunokhod 1** was a compact, nuclear-powered thermal device designed to maintain the rover's internal temperature during the extreme cold of the lunar night.
- This heater was crucial for survival in the Moon's harsh environment, where temperatures plummet to as low as **-150°C (-238°F)** for about 14 Earth days.
- **Polonium-210 RHU:** The RHU was a small, sealed capsule containing **polonium-210 (Po-210)**, an alpha-emitting isotope that decays into stable lead-206, releasing steady heat without significant radiation risk outside the unit.
- **Lunokhod 1** travelled a total of **10,540 metres (10.54 kilometres or 6.55 miles)** during its 11 lunar days of operation — a remarkable achievement that made it the first wheeled vehicle ever to explore another world and held the extraterrestrial distance record for more than 43 years.
- **Lunokhod 1** transmitted a total of **206 high-resolution panoramas** back to Earth during its 11 lunar days of operation, providing unprecedented 360-degree views of the Moon's surface that revolutionized remote planetary exploration.

How organisations can prepare employees for the AI revolution

A survey showed the biggest factor influencing workforce's AI opinions was level of AI literacy, or 'ability to detect, understand and evaluate technology,' compared to people with high AI literacy, people with low AI literacy were over six times more likely to feel apprehensive

GS III: S&T

NEWS ANALYSIS

Ramya Kannan
LAS VEGAS

At a time when humans perceive artificial intelligence as a threat to their jobs, how do organisations make sure that their employees are not antsy, but also try to keep up with technological advancements?

At the recent SAP Connect event in Las Vegas, there were some answers.

Autumn Krauss, Chief Scientist, Market Insights & Customer Engagement, SAP SuccessFactors, has some interesting data that may work for enterprises. Trained as an occupational psychologist, she brings these chops to understand the impact of AI and technology among human resources, among other things. If you are in the process of reimagining people strategies for a high-performing, future-ready workforce, she has some tips, borne out by data.

Workplace dynamics

She says SAP surveyed over 4,000 managers and employees globally about how AI is reshaping workplace dynamics and HR practices, and the results, well, paint a complicated picture. According to her, at the heart of the issue is what she calls the 'AI Literacy Divide'.



X factor: Organisations do not really factor in AI literacy, which is the basic idea. SPECIAL ARRANGEMENT

The survey showed that the biggest factor influencing the workforce's opinions of AI is their level of AI literacy, or 'their ability to detect, understand, and evaluate the technology.' Compared to people with high AI literacy, people with low AI literacy were over six times more likely to feel apprehensive, seven times more likely to feel afraid, and over eight times more likely to feel distressed about using AI at work.

Additionally, nearly 70% of people with high AI literacy expected to see positive outcomes from the use of AI at work, compared to 29% of people with low AI literacy. "So, I would argue that perhaps we've focused too much on the skills of AI and things such

as prompt engineering, or how to work with specific tools. Organisations do not really factor in AI literacy, which is the basic idea. It might sound like a simple concept, but it actually is well grounded in academic research, has very specific components. We have been measuring it with our studies, and we found that AI literacy is actually the most predictive factor for attitudes towards deployment of AI," she explains.

Agnostic to tools

AI literacy is agnostic to the tools. It's simple, she adds: "I understand enough about how AI works, I can detect when I'm interacting with AI, I can figure out when it's a good use or not a good use; and I can understand the ethical as-

pects. You're just getting deeper understanding and comfort, versus trying to technically know how to engineer Chat GPT prompts. "So, I think that's the starting position that would try to allay some of those resistance factors that we see amidst the workforce. Naturally, it also plays a role in job security. One specific measure that people are worried about is whether automation and technology will take their job. The incidence of this was about 31% of our sample surveyed," she explains.

Communication issue

It is her belief HR not communicating clearly about how new work is going to look like to employees is a missed opportunity. "In-

stead, often HR replaces clear messaging with platitudes such as: AI will take those tasks you don't want to do anyway, and then you'll get all this meaningful work instead."

No doubt, AI will also evolve over time. "Therefore, this idea that we're going to do this one-time strategic work redesign and everyone will be in the new roles and now we're all happy and it's all working out will not appease any one," she stresses. Instead, she advises approaching this model differently, "counselling HR, to think of this as dynamic work redesign, where we're constantly looking at the roles and the role of technology and trying to figure out how these jobs can be reshaped in a much more dynamic manner, because this isn't a once and done initiative."

Another issue that she turns her guns on is employee morale. "Earlier this year, we wanted to identify what we thought were the current trends that HR needed to prioritise for 2025. Number one on that list was employee disconnect. What we organisational psychologists do is study what 'good work' looks like. We think about how that strategic work redesign could be not only beneficial for work output and outcomes, but also as a lever to try to improve employee discon-

nect and morale."

Ms. Krauss adds that research has shown that on average, employees are saying that they're saving about 75 minutes a day from using AI. This went up from 52 minutes, when surveyed 10 months ago. But the question remains how much they are benefiting actually from AI.

"In this context, I'd like to mention the concept of 'Work Slop,'" she says. "Work slop" is a term coined by the Harvard Business Review to indicate AI-generated content that lacks substance, and requires someone to correct or redo it. The HBR notes that this erodes trust, hinders productivity, and shifts the burden of work to others. It could come from poor prompt engineering, but also nascent large language models and insufficient training, but essentially a failure that can be costly. A recent report from the MIT Media Lab found that 95% of organisations see no measurable return on their investment in these technologies. In this context, organisations will have to be the change champions, have pilot programmes, continuous support and feedback, besides evaluation of the performance of the technology that has been deployed, Ms. Krauss notes.

(The writer was in Las Vegas at the invitation of SAP)



How organisations can prepare employees for the AI revolution संगठन AI क्रांति के लिए कर्मचारियों को कैसे तैयार कर सकते हैं

- A survey showed the biggest factor influencing workforce's AI opinions was **level of AI literacy**, or the "ability to detect, understand and evaluate technology"; compared to people with high AI literacy, people with low AI literacy were **over six times more likely to feel apprehensive**.

एक सर्वेक्षण से पता चला कि कर्मचारियों की AI के प्रति राय को प्रभावित करने वाला सबसे बड़ा कारक **AI साक्षरता का स्तर** है, यानी "तकनीक का पता लगाने, समझने और मूल्यांकन करने की क्षमता"; उच्च AI साक्षरता वाले लोगों की तुलना में कम AI साक्षरता वाले लोग **छह गुना अधिक चिंतित** महसूस करने की संभावना रखते हैं।

- At a time when humans perceive artificial intelligence as a threat to their jobs, how do organisations make sure that employees are not **antsy**, but also keep up with technological advancements?

जब लोग कृत्रिम बुद्धिमत्ता को अपनी नौकरियों के लिए खतरा मानते हैं, ऐसे में संगठन कैसे सुनिश्चित करें कि कर्मचारी बेचैन न हों और तकनीकी प्रगति के साथ तालमेल बनाए रखें?

- At the recent **SAP Connect** event in Las Vegas, there were some answers. हाल ही में लास वेगास में हुए **SAP Connect** कार्यक्रम में कुछ उत्तर मिले।
- **Autumn Krauss**, Chief Scientist, SAP SuccessFactors, shared insights based on data. **ऑटम क्राउस**, मुख्य वैज्ञानिक, SAP सक्सेसफैक्टर्स, ने डेटा आधारित विचार साझा किए।
- She is trained as an **occupational psychologist**, helping understand the impact of AI and technology on human resources. वह एक **व्यावसायिक मनोवैज्ञानिक** हैं, जो मानव संसाधन पर AI और तकनीक के प्रभाव को समझने में सहायता करती हैं।



Workplace dynamics कार्यस्थल की गतिशीलता

- She says SAP surveyed over **4,000 managers and employees globally** about how AI is reshaping workplace dynamics and HR practices. उनके अनुसार SAP ने वैश्विक स्तर पर **4,000 से अधिक प्रबंधकों और कर्मचारियों** का सर्वेक्षण किया कि AI कार्यस्थल और HR प्रक्रियाओं को कैसे बदल रहा है।
- At the heart of the issue is what she calls the **"AI Literacy Divide"**. इस पूरी समस्या के केंद्र में वह जिस चीज़ को **"AI साक्षरता विभाजन"** कहती हैं, वही है।
- The biggest factor influencing workforce opinions is their **level of AI literacy**. कर्मचारियों की राय को प्रभावित करने वाला सबसे बड़ा कारक उनकी **AI साक्षरता का स्तर** है।
- **People with low AI literacy were six times more likely to feel apprehensive, seven times more likely to feel afraid, and eight times more likely to feel distressed**. कम AI साक्षरता वाले लोग **छह गुना अधिक चिंतित, सात गुना अधिक भयभीत, और आठ गुना अधिक परेशान** महसूस करते हैं।
- Nearly **70% of people with high AI literacy** expected positive outcomes, compared to **29%** of low literacy respondents. उच्च AI साक्षरता वाले **70% लोग** सकारात्मक परिणाम की उम्मीद करते हैं, जबकि कम साक्षरता वाले केवल **29%** लोग ऐसा मानते हैं।
- She argues that organisations have focused too much on **skills like prompt engineering** and not enough on **AI literacy**, which is more foundational. वह कहती हैं कि संगठन **प्रॉम्प्ट इंजीनियरिंग** जैसी कौशलों पर बहुत अधिक ध्यान दे रहे हैं, जबकि **AI साक्षरता** जैसी बुनियादी चीज़ पर कम।



- AI literacy is about **understanding how AI works, detecting when one is interacting with AI, knowing good vs. bad use cases**, and being aware of ethical issues.
AI साक्षरता में शामिल है कि AI कैसे काम करता है, कब AI के साथ बातचीत हो रही है, कौन-से उपयोग उचित हैं, और नैतिक मुद्दों की समझ।

Agnostic to tools

टूल्स से स्वतंत्र

- AI literacy is **agnostic to tools** — it is about broader understanding, not technical mastery.
AI साक्षरता **किसी भी टूल पर निर्भर नहीं** होती — यह व्यापक समझ पर आधारित है, तकनीकी विशेषज्ञता पर नहीं।
- It also affects employees' sense of **job security**, with 31% worried that automation will take their job.
यह **नौकरी सुरक्षा** की भावना को भी प्रभावित करती है; 31% कर्मचारी चिंतित हैं कि स्वचालन उनकी नौकरियाँ ले लेगा।

Communication issue

संचार की समस्या

- She believes HR fails to clearly communicate how work will change with AI.
उनका मानना है कि HR यह स्पष्ट नहीं बताता कि AI के साथ काम कैसे बदलेगा।
- Instead, HR often uses vague lines like “AI will take tasks you don't like”, which employees do not find convincing.
इसके बजाय HR अक्सर कहता है, “AI वे काम करेगा जो आपको पसंद नहीं”, जो कर्मचारियों को संतोषजनक नहीं लगता।
- AI will evolve over time, so she recommends **dynamic work redesign** instead of one-time restructuring.
AI समय के साथ विकसित होगा, इसलिए वह **गतिशील कार्य पुनर्रचना** की सलाह देती हैं, न कि एक बार की संरचना परिवर्तन की।
- She highlights **employee disconnect** as HR's top concern for 2025.
वह **कर्मचारी असंबद्धता** को 2025 के लिए HR की प्रमुख चिंता बताती हैं।
- Employees are saving 75 minutes a day using AI, up from 52 minutes ten months ago.**
कर्मचारी AI की मदद से प्रतिदिन **75 मिनट** बचा रहे हैं, जो 10 महीने पहले **52 मिनट** था।
- But the question is whether this time-saving actually benefits them.
लेकिन सवाल यह है कि क्या यह समय बचत वास्तव में उन्हें लाभ देती है?

Work Slop

वर्क स्लॉप

- She mentions **“Work Slop”**, a term for AI-generated content that lacks substance and requires correction.
वह **“वर्क स्लॉप”** का उल्लेख करती हैं, यानी ऐसा AI सामग्री जो कमजोर हो और जिसे सुधारना पड़े।
- It reduces trust, productivity, and pushes work onto others.**
यह भरोसे को कम करती है, उत्पादकता घटाती है, और दूसरों पर काम का बोझ डालती है।
- An MIT Media Lab report found **95% of organisations see no measurable return on AI investments yet.**
MIT मीडिया लैब की रिपोर्ट में पाया गया कि **95% संगठन** अभी तक AI निवेश पर **कोई ठोस लाभ** नहीं देख पाए।
- Organisations must be **change champions**, running pilots, offering continuous support, seeking feedback, and assessing deployed technologies.
संगठनों को **परिवर्तन के अग्रदूत** बनना चाहिए — पायलट चलाना, निरंतर समर्थन देना, प्रतिक्रिया लेना और लागू तकनीक का मूल्यांकन करना।



SC recalls verdict rejecting green clearances

The majority 2-1 verdict upholds pleas in public interest; CJI says it would have 'devastating' effect

Justice Bhuyan records a sharp dissent, says court is backtracking for the sake of violators

In May, the court said retrospective clearances to regularise constructions were clearly illegal

Krishnadas Rajagopal
NEW DELHI

A three-judge Bench of the Supreme Court, in a majority judgment on Tuesday, recalled its May 16 verdict declaring the Centre's grant of *ex post facto* or retrospective environmental clearances (ECs) to building projects and constructions a "gross illegality" and an "anathema".

Chief Justice of India B.R. Gavai, who is retiring on November 23, said in his separate opinion that the May 16 judgment, if allowed to continue to operate, would have a "devastating effect" and "thousands of crores of Rupees would go to waste".

Justice K. Vinod Chandran backed his view, forming the majority on the Bench.

Justice Ujjal Bhuyan recorded a sharp dissent in

his 97-page opinion. He termed the review judgment an "innocent expression of opinion" which overlooked the "very fundamentals of environmental jurisprudence".

The separate individual opinions of the Chief Justice and Justice Bhuyan clashed, with the latter saying he was pained to see the country's highest court "backtracking on sound environmental jurisprudence" for the sake of violators, even as the "deadly Delhi smog reminds us everyday about the hazards of pollution".

Justice Bhuyan was a member of the two-judge Bench, headed by the now-retired Justice A.S. Oka, which had delivered the May 16 judgment.

'Crafty drafting'
The May judgment had held that granting retrospective clearances in any

form to regularise illegal constructions was clearly illegal. The court had struck down a 2017 notification and 2021 office memorandum (OM) of the Union government, which in effect recognised the grant of *ex post facto* ECs.

It had found the Centre guilty of "crafty drafting" to clear illegal constructions through retrospective ECs. The two-judge Bench had concluded that the government was only protecting the illegal actions of project proponents who started building or operations in these illegal constructions without obtaining the prior EC mandated by environmental protection laws.

The Chief Justice reasoned that striking down retrospective ECs would lead to the demolition of multi-crore private and public projects either in use

Divergent views

The Supreme Court's majority verdict and dissenting voice focus on different aspects of retrospective environmental clearances

CJI B.R. Gavai, Justice K. Vinod Chandran uphold review petitions: Continuation of the May 16 verdict striking down *ex post facto* EC, will have a "devastating" impact on economy and development

Projects likely to be affected:

- 24 Central projects worth ₹8,293 crore
- 29 State-level projects worth ₹11,168 crore
- Loss to public exchequer to the tune of nearly ₹20,000 crore

Justice Ujjal Bhuyan finds no case for review:

Ex post facto EC is anathema to the environment.

Upholding the review would seem like the SC backtracking when a deadly smog is choking Delhi. A false narrative is being created, pitting the environment against development

or under construction, employing hundreds.

Chief Justice Gavai questioned the need for demolition of these structures when they could continue by paying heavy penalties. Many projects, including an investment by the Steel Authority of India (SAIL), a

962-bed AIIMS hospital in Odisha, a greenfield airport in Karnataka, and the Central Armed Police Forces Institute of Medical Sciences in Delhi, were pending as a result of the May 16 judgment, he wrote. The CJ said judicial precedents of the court

have held that *ex post facto* ECs cannot be declined with "pedantic rigidity".

Ex post facto approval should not be withheld only as a penal measure, he said, adding that projects can be cleared retrospectively in exceptional circumstances and not as a routine. The top judge asked himself the question of whether it would be in public interest to demolish all these projects and throw the money spent on them into the dustbin.

"The question, therefore, is whether such a *modus operandi* of demolition and re-construction would be in the larger public interest or would in fact be counter-productive to the public interest?" the CJ asked.

Justice Bhuyan dismissed the CJ's "dustbin" query, saying it was founded on erroneous logic. He said the "question" should be

why the review judgment is so keen to "virtually prod" the Centre to grant *ex post facto* ECs to violators of the law.

'False narrative'
"It is unfortunate that a false narrative is being created pitting the environment against development... Environment law cannot countenance the notion of an *ex post facto* clearance. This is contrary to both the precautionary principle as well as the need for sustainable development," Justice Bhuyan observed.

Ecology and development are not adversaries, he stressed, adding that both were part of the Constitutional construct of sustainable development. Retrospective ECs, however, are an anathema - "a thing devoted to evil" - thrust on the environment, said Justice Bhuyan.

SC recalls verdict rejecting green clearances

ग्रीन क्लीयरेंस को खारिज करने वाला फैसला SC ने वापस लिया

- The majority 2-1 verdict upholds pleas in **public interest**; **CJI** says it would have 'devastating' effect
बहुमत 2-1 के फैसले ने **जनहित** में दायर याचिकाओं को सही माना; **सीजेआई** ने कहा कि इसका 'विनाशकारी' प्रभाव होगा
- Justice Bhuyan records a sharp **dissent**, says court is backtracking for the sake of violators
न्यायमूर्ति भुइयन ने कड़ा **असहमति** मत दर्ज किया, कहा कि अदालत उल्लंघनकर्ताओं के लिए पीछे हट रही है
- In May, the court said **retrospective clearances** to regularise constructions were clearly illegal
मई में, अदालत ने कहा था कि निर्माण को नियमित करने के लिए **पुनरावलोकन (रेट्रोस्पेक्टिव) क्लीयरेंस** स्पष्ट रूप से अवैध हैं
- A three-judge Bench of the **Supreme Court**, in a majority judgment on Tuesday, recalled its May 16 verdict declaring the Centre's grant of **ex post facto** or retrospective environmental clearances (ECs) to building projects and constructions a "gross illegality" and an "anathema".
सुप्रीम कोर्ट की तीन-न्यायाधीशों की पीठ ने मंगलवार को बहुमत के फैसले में अपना 16 मई का वह निर्णय वापस ले लिया, जिसमें केंद्र द्वारा भवन परियोजनाओं के लिए **एक्स पोस्ट फैक्टो** या रेट्रोस्पेक्टिव पर्यावरणीय क्लीयरेंस (EC) देने को "गंभीर अवैधता" और "अशुभ" बताया गया था।
- Chief Justice of India **B.R. Gavai**, who is retiring on November 23, said in his separate opinion that the May 16 judgment, if allowed to continue to operate, would have a "devastating effect" and "thousands of crores of Rupees would go to waste".
भारत के मुख्य न्यायाधीश **बी.आर. गवई**, जो 23 नवंबर को सेवानिवृत्त हो रहे हैं, ने अपने अलग निर्णय में कहा कि यदि 16 मई का फैसला लागू रहा, तो इसका "विनाशकारी प्रभाव" होगा और "हजारों करोड़ रुपये बर्बाद हो जाएंगे"।
- Justice **K. Vinod Chandran** backed his view, forming the majority on the Bench.
न्यायमूर्ति **के. विनोद चन्द्रन** ने उनके विचार का समर्थन किया, जिससे पीठ में बहुमत बना।
- Justice **Ujjal Bhuyan** recorded a sharp dissent in his 97-page opinion. He termed the review judgment an "innocent expression of opinion" which overlooked the "very fundamentals of environmental jurisprudence".
न्यायमूर्ति **उज्ज्वल भुइयन** ने अपने 97-पृष्ठीय मत में कड़ी असहमति दर्ज की। उन्होंने पुनरावलोकन निर्णय को



“मत का भोला-भाला अभिव्यक्ति” कहा, जिसने “पर्यावरणीय न्यायशास्त्र की मूल बुनियादों” को नज़रअंदाज़ किया।

- The separate individual opinions of the Chief Justice and Justice Bhuyan clashed, with the latter saying he was pained to see the country’s highest court “backtracking on sound environmental jurisprudence” for the sake of violators, even as the “deadly **Delhi smog** reminds us everyday about the hazards of pollution”.

मुख्य न्यायाधीश और न्यायमूर्ति भुइयन के व्यक्तिगत मत टकरा गए, भुइयन ने कहा कि वह दुखी हैं कि देश की सर्वोच्च अदालत उल्लंघनकर्ताओं के हित में “मजबूत पर्यावरणीय न्यायशास्त्र से पीछे हट रही है”, जबकि “घातक **दिल्ली धुंध** रोज हमें प्रदूषण के खतरों की याद दिलाती है”।

- Justice Bhuyan was a member of the two-judge Bench, headed by now-retired Justice **A.S. Oka**, which had delivered the May 16 judgment.
न्यायमूर्ति भुइयन दो-न्यायाधीशों की उस पीठ का हिस्सा थे, जिसकी अध्यक्षता सेवानिवृत्त न्यायमूर्ति **ए.एस. ओका** कर रहे थे और जिसने 16 मई का फैसला सुनाया था।

‘Crafty drafting’ ‘चालाक ड्राफ्टिंग’

- The May judgment had held that granting retrospective clearances in any form to regularise illegal constructions was clearly illegal.
मई के फैसले ने माना था कि अवैध निर्माण को नियमित करने के लिए किसी भी रूप में रेट्रोस्पेक्टिव क्लीयरेंस देना स्पष्ट रूप से अवैध है।
- The court had struck down a **2017 notification** and **2021 office memorandum (OM)** of the Union government, which in effect recognised the grant of ex post facto ECs.
अदालत ने केंद्र सरकार की **2017 की अधिसूचना** और **2021 के कार्यालय ज्ञापन (OM)** को रद्द कर दिया था, जो वास्तव में एक्स पोस्ट फैक्टो EC को मान्यता देते थे।
- It had found the Centre guilty of “crafty drafting” to clear illegal constructions through retrospective ECs.
अदालत ने केंद्र को रेट्रोस्पेक्टिव EC के माध्यम से अवैध निर्माण को मंजूरी देने के लिए “चालाक ड्राफ्टिंग” का दोषी पाया था।
- The two-judge Bench had concluded that the government was only protecting the illegal actions of project proponents who started building or operations without obtaining **prior EC** mandated by environmental protection laws.
दो-न्यायाधीशों की पीठ ने कहा था कि सरकार केवल उन परियोजना-पक्षकारों की अवैध गतिविधियों की रक्षा कर रही है, जिन्होंने पर्यावरण संरक्षण कानूनों द्वारा आवश्यक **पूर्व-EC** लिए बिना निर्माण या संचालन शुरू कर दिया था।

CJI’s reasoning सीजेआई का तर्क

- The Chief Justice reasoned that striking down retrospective ECs would lead to demolition of multi-crore private and public projects either in use or under construction, employing hundreds.
मुख्य न्यायाधीश का तर्क था कि रेट्रोस्पेक्टिव EC को रद्द करने से कई करोड़ की निजी और सार्वजनिक परियोजनाओं का ध्वस्तीकरण हो जाएगा, जो उपयोग में हैं या निर्माणाधीन हैं, और जिनमें सैकड़ों लोग काम करते हैं।
- CJI Gavaikar questioned the need for demolition when these structures could continue by paying heavy penalties.
सीजेआई गवाई ने पूछा कि जब ये ढांचे भारी जुर्माना भरकर जारी रह सकते हैं तो उन्हें गिराने की आवश्यकता क्यों है।
- He noted that many projects, including investments by **SAIL**, a **962-bed AIIMS** in Odisha, a **greenfield airport** in Karnataka, and the **CAPF Institute of Medical Sciences** in Delhi, were pending because of the May 16 judgment.
उन्होंने उल्लेख किया कि कई परियोजनाएँ—जैसे **सेल** का निवेश, ओडिशा में **962-बेड का एम्स**, कर्नाटक में **ग्रीनफील्ड एयरपोर्ट**, और दिल्ली में **CAPF मेडिकल साइंसेस संस्थान**—16 मई के फैसले के कारण लंबित थीं।



- The CJJ said judicial precedents have held that ex post facto ECs cannot be declined with “pedantic rigidity”.
सीजेआई ने कहा कि न्यायिक मिसालें बताती हैं कि एक्स पोस्ट फैक्टो EC को “कठोर तकनीकी आधार” पर अस्वीकार नहीं किया जा सकता।
- He said retrospective approvals should not be withheld only as a **penal measure**, adding that ECs can be granted retrospectively in **exceptional circumstances** and not routinely.
उन्होंने कहा कि रेट्रोस्पेक्टिव अनुमोदन को केवल **दंडात्मक उपाय** के रूप में नहीं रोका जाना चाहिए, और विशेष परिस्थितियों में EC को रेट्रोस्पेक्टिव रूप से दिया जा सकता है।
- The CJJ asked whether it would be in **public interest** to demolish all these projects and “throw the money spent on them into the dustbin”.
सीजेआई ने पूछा कि क्या इन सभी परियोजनाओं को गिराना और “उन पर खर्च हुए पैसे को कूड़ेदान में फेंकना” जनहित में होगा।

Justice Bhuyan’s dissent न्यायमूर्ति भुइयन की असहमति

- Justice Bhuyan rejected the CJJ’s “dustbin” question as **erroneous logic**, asking why the review judgment was keen to “prod” the Centre to grant ex post facto ECs to violators.
न्यायमूर्ति भुइयन ने सीजेआई के “कूड़ेदान” तर्क को **त्रुटिपूर्ण** बताया और पूछा कि समीक्षा निर्णय उल्लंघनकर्ताओं को एक्स पोस्ट फैक्टो EC देने के लिए केंद्र को “उकसाने” के लिए इतना उत्सुक क्यों है।
- “It is unfortunate that a **false narrative** is being created pitting the environment against development... Environment law cannot countenance ex post facto clearance.”
“यह दुर्भाग्यपूर्ण है कि **गलत नैरेटिव** बनाया जा रहा है जिसमें पर्यावरण को विकास के खिलाफ खड़ा किया जा रहा है... पर्यावरण कानून एक्स पोस्ट फैक्टो क्लीयरेंस को स्वीकार नहीं कर सकता।”
- “This is contrary to both the **precautionary principle** and the need for **sustainable development**.”
“यह **सतर्कता सिद्धांत** और **सतत विकास** दोनों के विपरीत है।”
- Justice Bhuyan said ecology and development are not adversaries, but retrospective ECs are an **anathema** — ‘a thing devoted to evil’ thrust on the environment.
न्यायमूर्ति भुइयन ने कहा कि पारिस्थितिकी और विकास प्रतिद्वंद्वी नहीं हैं, लेकिन रेट्रोस्पेक्टिव EC पर्यावरण पर थोपा गया एक **अशुभ** — ‘दुष्ट वस्तु’ है।



The NH-701A highway is an ecological risk

GS III: Environment

Roads have long been viewed as symbols of development – linking regions, opening markets, and connecting people. In mountainous regions, however, road construction is never a simple feat of engineering. It involves negotiating steep gradients, fragile soils, sensitive ecosystems, and communities whose lives are intricately bound to their landscapes. The challenge of balancing development and environmental sustainability is particularly acute in Jammu & Kashmir (J&K), where geography is not merely physical but deeply political and cultural.

In October 2024, the Ministry of Road Transport and Highways (MoRTH) issued a tender for the preparation of a Detailed Project Report and for construction supervision of a two-lane highway with paved shoulders, stretching from Shopian to Magam. This will go through Kellar, Pakherpora, Yousmarg, and Doodhpathri – all within mountainous districts.

The case of NH-701A

On paper, the project appears to improve connectivity and integrate regions into wider economic and administrative networks. However, the Himalayas, and particularly the Kashmir Valley, are defined by fragile landscapes, high seismicity, unique biodiversity, and hydrological systems sustained by glaciers and snow-fed rivers. Infrastructure interventions in such terrains often produce far-reaching ecological, social, and cultural consequences.

The proposed NH-701A alignment cuts across forests, grazing lands, and water catchments, raising concerns about long-term sustainability. For much of its length, the road traverses forested and sparsely populated stretches where basic connectivity already exists.

While projects such as NH-701A have not been sufficiently studied, existing research offers important clues. A 2023 study, 'Qualitative Slope Stability Assessment of Hill



A.M. Saleem Beg

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General Tourism, J&K,
and Convener,
INTACH

The proposed highway is far more than an engineering project; it stands as a litmus test for environmental governance in Jammu and Kashmir

Slopes Using Multiple Integrated Approaches along Bafliaz-Poshiana (Mughal) Road, Jammu and Kashmir' (*Journal of the Geological Society of India*), revealed a high probability of slope failure along cut slopes – particularly during heavy rainfall.

This finding pertains to the same terrain and geological conditions in which NH-701A is proposed. Although the official tender notice does not mention it, the project effectively extends the Bafliaz-Poshiana-Peer Ki Gali-Shopian road. According to the map attached to the tender, the road stretch connecting Bafliaz to NH-144A (the Jammu-Poonch highway, a key defense corridor) was transferred from the J&K Public Works Department to the MoRTH in September 2024. The rationale for this transfer has not been publicly explained, prompting speculation about the project's true intent, with some experts suggesting strategic or operational motivations rather than purely developmental ones.

Systematic evaluation

Under India's Environmental Impact Assessment (EIA) Notification of 2006, large-scale road projects ordinarily require systematic evaluation. The EIA process is not a bureaucratic hurdle but a critical safeguard, measuring potential impacts on land use, biodiversity, drainage, pollution, and community livelihoods. Importantly, it mandates public consultation.

However, in 2022, the Ministry of Environment, Forests and Climate Change (MoEFCC) issued a notification exempting highway projects within 100 km of the Line of Control from prior environmental clearance. While justified on security grounds to expedite border connectivity, this diluted environmental scrutiny in regions already vulnerable to ecological degradation.

Even so, the MoEFCC's Office Memorandum of July 14, 2022, emphasised the continued need for safeguards. Subsequent Standard Operating Procedures,

issued on February 6, 2023, clarified that EIA exemptions do not waive other statutory approvals. These SOPs mandate a range of risk assessments and studies including detailed slope stability and disaster management evaluations; eco-fragility and hydrological studies; geological surveys for tunneling; catchment and drainage analyses; and preservation of heritage trees or compensatory plantation at a 1:10 ratio. In effect, while the exemption removes one layer of public oversight, it shifts greater responsibility onto project proponents and State authorities for ensuring compliance. But so far, there is no public evidence that these processes have been initiated in the case of NH-701A.

The ecological risks are compounded by socio-cultural concerns. Yousmarg and Doodhpathri are vital grazing grounds for pastoralist communities such as the Gujjars and Bakarwals. A major highway bisecting these areas risks reducing grazing land, disrupting migratory routes, and marginalising vulnerable groups.

Hydrological systems in these glacier-fed regions are equally fragile. Road construction on unstable slopes can trigger erosion, landslides, and sedimentation, degrading water quality and disturbing downstream flow regimes. As multiple studies have shown, such interventions magnify risks in a context where climate change is already shrinking glaciers and destabilising mountain hydrology.

The proposed highway is thus far more than an engineering project; it stands as a litmus test for environmental governance in J&K. If executed without robust safeguards, it risks unleashing ecological and social costs that could outweigh its developmental benefits. Yet, if approached through integrated planning, inter-departmental cooperation, and community consultation, it could still evolve into a model of sustainable infrastructure in fragile mountain regions.

The NH-701A highway is an ecological risk

एनएच-701ए हाईवे एक पारिस्थितिक जोखिम है

- **Roads have long been viewed as symbols of development — linking regions, opening markets, and connecting people.** सड़कें लंबे समय से विकास के प्रतीक के रूप में देखी जाती रही हैं — क्षेत्रों को जोड़ने, बाजार खोलने और लोगों को जोड़ने वाली।
- **In mountainous regions, however, road construction is never a simple feat of engineering.** हालांकि, पर्वतीय क्षेत्रों में सड़क निर्माण कभी इंजीनियरिंग का सरल करतब नहीं होता।
- **It involves negotiating steep gradients, fragile soils, sensitive ecosystems, and communities whose lives are intricately bound to their landscapes.** इसमें तेज ढलान, नाजुक मिट्टी, संवेदनशील पारिस्थितिक तंत्र और समुदायों के साथ बातचीत शामिल है जिनके जीवन उनके परिदृश्यों से जटिल रूप से बंधे हैं।



- The challenge of balancing development and environmental sustainability is particularly acute in Jammu & Kashmir (J&K), where geography is not merely physical but deeply political and cultural.
विकास और पर्यावरणीय स्थिरता को संतुलित करने की चुनौती जम्मू और कश्मीर (J&K) में विशेष रूप से तीव्र है, जहां भूगोल केवल भौतिक नहीं बल्कि गहराई से राजनीतिक और सांस्कृतिक है।
- In October 2024, the Ministry of Road Transport and Highways (MoRTH) issued a tender for the preparation of a Detailed Project Report and for construction supervision of a two-lane highway with paved shoulders, stretching from Shopian to Magam. अक्टूबर 2024 में, सड़क परिवहन और राजमार्ग मंत्रालय (MoRTH) ने शोपियां से मगम तक फैली दो-लेन राजमार्ग के विस्तृत परियोजना रिपोर्ट की तैयारी और निर्माण पर्यवेक्षण के लिए निविदा जारी की, जिसमें पक्के कंधे हैं।
- This will go through Kellar, Pakherpora, Yousmarg, and Doodhpathri — all within mountainous districts. यह केलर, पखेरपोरा, यूसमर्ग और दूधपथरी से होकर गुजरेगी — सभी पर्वतीय जिलों के भीतर।

The case of NH-701A

NH-701A का मामला

- On paper, the project appears to improve connectivity and integrate regions into wider economic and administrative networks. कागज पर, परियोजना कनेक्टिविटी सुधारने और क्षेत्रों को व्यापक आर्थिक और प्रशासनिक नेटवर्क में एकीकृत करने लगती है।
- However, the Himalayas, and particularly the Kashmir Valley, are defined by fragile landscapes, high seismicity, unique biodiversity, and hydrological systems sustained by glaciers and snow-fed rivers. हालांकि, हिमालय, और विशेष रूप से कश्मीर घाटी, नाजुक परिदृश्यों, उच्च भूकंपीयता, अद्वितीय जैव विविधता और हिमनदों और बर्फ-आहार नदियों द्वारा बनाए रखे गए जलविज्ञान प्रणालियों से परिभाषित हैं।
- Infrastructure interventions in such terrains often produce far-reaching ecological, social, and cultural consequences. ऐसी भू-आकृतियों में बुनियादी ढांचा हस्तक्षेप अक्सर दूरगामी पारिस्थितिक, सामाजिक और सांस्कृतिक परिणाम पैदा करते हैं।
- The proposed NH-701A alignment cuts across forests, grazing lands, and water catchments, raising concerns about long-term sustainability. प्रस्तावित NH-701A संरेखण जंगलों, चरागाह भूमि और जल संग्रहण क्षेत्रों को काटता है, दीर्घकालिक स्थिरता के बारे में चिंताएं उठाते हुए।
- For much of its length, the road traverses forested and sparsely populated stretches where basic connectivity already exists. इसकी अधिकांश लंबाई के लिए, सड़क जंगली और विरल आबादी वाले खंडों से होकर गुजरती है जहां बुनियादी कनेक्टिविटी पहले से मौजूद है।
- While projects such as NH-701A have not been sufficiently studied, existing research offers important clues. जबकि NH-701A जैसे परियोजनाओं का पर्याप्त अध्ययन नहीं किया गया है, मौजूदा शोध महत्वपूर्ण संकेत देते हैं।
- A 2023 study, 'Qualitative Slope Stability Assessment of Hill Slopes Using Multiple Integrated Approaches along Baffiaz-Poshiana (Mughal) Road, Jammu and Kashmir' (Journal of the Geological Society of India), revealed a high probability of slope failure along cut slopes — particularly during heavy rainfall. 2023 का अध्ययन, 'क्वालिटेटिव स्लोप स्टेबिलिटी असेसमेंट ऑफ हिल स्लोप्स यूजिंग मल्टीपल इंटीग्रेटेड अप्रोचेज अलॉन्ग बाफियाज-पोशियाना (मुगल) रोड, जम्मू एंड कश्मीर' (जर्नल ऑफ द जियोलॉजिकल सोसाइटी ऑफ इंडिया), कट स्लोप्स के साथ ढलान विफलता की उच्च संभावना प्रकट करता है — विशेष रूप से भारी वर्षा के दौरान।
- This finding pertains to the same terrain and geological conditions in which NH-701A is proposed. यह निष्कर्ष उसी भू-आकृति और भूवैज्ञानिक स्थितियों से संबंधित है जिसमें NH-701A प्रस्तावित है।
- Although the official tender notice does not mention it, the project effectively extends the Baffiaz-Poshiana-Peer Ki Gali-Shopian road. हालांकि आधिकारिक निविदा नोटिस में इसका उल्लेख नहीं है, परियोजना प्रभावी रूप से बाफियाज-पोशियाना-पीर की गली-शोपियां सड़क को विस्तारित करती है।
- According to the map attached to the tender, the road stretch connecting Baffiaz to NH-144A (the Jammu-Poonch highway, a key defense corridor) was transferred from the J&K Public Works Department to the MoRTH in September 2024.



निविदा से जुड़े नक्शे के अनुसार, बाफियाज को NH-144A (जम्मू-पुंछ राजमार्ग, एक प्रमुख रक्षा गलियारा) से जोड़ने वाला सड़क खंड सितंबर 2024 में J&K पब्लिक वर्क्स डिपार्टमेंट से MoRTH को स्थानांतरित किया गया था।

- The rationale for this transfer has not been publicly explained, prompting speculation about the project's true intent, with some experts suggesting strategic or operational motivations rather than purely developmental ones.

इस स्थानांतरण का तर्क सार्वजनिक रूप से समझाया नहीं गया है, जो परियोजना के वास्तविक उद्देश्य के बारे में अनुमान को प्रेरित करता है, कुछ विशेषज्ञों द्वारा रणनीतिक या परिचालन प्रेरणाओं का सुझाव देते हुए न कि शुद्ध विकासात्मक।

Systematic evaluation

व्यवस्थित मूल्यांकन

- Under India's **Environmental Impact Assessment (EIA) Notification of 2006**, large-scale road projects ordinarily require systematic evaluation.

भारत के पर्यावरण प्रभाव आकलन (EIA) अधिसूचना 2006 के तहत, बड़े पैमाने पर सड़क परियोजनाओं को सामान्यतः व्यवस्थित मूल्यांकन की आवश्यकता होती है।

- The EIA process is not a bureaucratic hurdle but a critical safeguard, measuring potential impacts on land use, biodiversity, drainage, pollution, and community livelihoods.

EIA प्रक्रिया एक नौकरशाही बाधा नहीं बल्कि एक महत्वपूर्ण सुरक्षा उपाय है, जो भूमि उपयोग, जैव विविधता, जल निकासी, प्रदूषण और समुदाय आजीविका पर संभावित प्रभावों को मापता है।

- Importantly, it mandates public consultation.

महत्वपूर्ण रूप से, यह सार्वजनिक परामर्श अनिवार्य बनाता है।

- However, in 2022, the Ministry of Environment, Forests and Climate Change (MoEFCC) issued a notification exempting highway projects within 100 km of the Line of Control from prior environmental clearance.

हालांकि, 2022 में, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय (MoEFCC) ने नियंत्रण रेखा से 100 किमी के भीतर राजमार्ग परियोजनाओं को पूर्व पर्यावरणीय मंजूरी से छूट देने वाली अधिसूचना जारी की।

- While justified on security grounds to expedite border connectivity, this diluted environmental scrutiny in regions already vulnerable to ecological degradation.
- हालांकि सीमा कनेक्टिविटी को तेज करने के लिए सुरक्षा आधार पर उचित ठहराया गया, इससे पहले से ही पारिस्थितिक क्षरण के प्रति संवेदनशील क्षेत्रों में पर्यावरणीय जांच कमजोर हो गई।

- Even so, the MoEFCC's Office Memorandum of July 14, 2022, emphasised the continued need for safeguards.
- फिर भी, MoEFCC के 14 जुलाई 2022 के कार्यालय ज्ञापक ने सुरक्षा उपायों की निरंतर आवश्यकता पर जोर दिया।

- Subsequent Standard Operating Procedures, issued on February 6, 2023, clarified that EIA exemptions do not waive other statutory approvals.
- बाद की मानक संचालन प्रक्रियाएं, 6 फरवरी 2023 को जारी, ने स्पष्ट किया कि EIA छूट अन्य वैधानिक अनुमोदनों को माफ नहीं करती।

- These SOPs mandate a range of risk assessments and studies including detailed slope stability and disaster management evaluations; eco-fragility and hydrological studies; geological surveys for tunneling; catchment and drainage analyses; and preservation of heritage trees or compensatory plantation at a 1:10 ratio.
- ये SOPs जोखिम मूल्यांकनों और अध्ययनों की एक श्रृंखला अनिवार्य बनाती हैं जिनमें विस्तृत ढलान स्थिरता और आपदा प्रबंधन मूल्यांकन; पारिस्थितिक नाजुकता और जलविज्ञान अध्ययन; सुरंग के लिए भूवैज्ञानिक सर्वेक्षण; संग्रहण और जल निकासी विश्लेषण; और विरासत वृक्षों का संरक्षण या 1:10 अनुपात में मुआवजा रोपण शामिल हैं।

- In effect, while the exemption removes one layer of public oversight, it shifts greater responsibility onto project proponents and State authorities for ensuring compliance.

प्रभाव में, जबकि छूट सार्वजनिक निगरानी की एक परत हटा देती है, यह अनुपालन सुनिश्चित करने के लिए परियोजना प्रस्तावकों और राज्य अधिकारियों पर अधिक जिम्मेदारी स्थानांतरित करती है।

- But so far, there is no public evidence that these processes have been initiated in the case of NH-701A.
- लेकिन अब तक, NH-701A के मामले में इन प्रक्रियाओं की शुरुआत का कोई सार्वजनिक प्रमाण नहीं है।



- **The ecological risks are compounded by socio-cultural concerns.** पारिस्थितिक जोखिम सामाजिक-सांस्कृतिक चिंताओं से बढ़ जाते हैं।
- **Yousmarg and Doodhpathri are vital grazing grounds for pastoralist communities such as the Gujjars and Bakarwals.** यूसमर्ग और दूधपथरीगुज्जर और बकरवाल जैसे चरवाहा समुदायों के लिए महत्वपूर्ण चरागाह भूमि हैं।
- **A major highway bisecting these areas risks reducing grazing land, disrupting migratory routes, and marginalising vulnerable groups.** इन क्षेत्रों को काटने वाली प्रमुख राजमार्ग चरागाह भूमि को कम करने, प्रवासी मार्गों को बाधित करने और संवेदनशील समूहों को हाशिए पर धकेलने का जोखिम उठाती है।
- **Hydrological systems in these glacier-fed regions are equally fragile.** इन हिमनद-आहार क्षेत्रों में जलविज्ञान प्रणालियां समान रूप से नाजुक हैं।
- **Road construction on unstable slopes can trigger erosion, landslides, and sedimentation, degrading water quality and disturbing downstream flow regimes.** अस्थिर ढलानों पर सड़क निर्माण कटाव, भूस्खलन और अवसादन को ट्रिगर कर सकता है, जल गुणवत्ता को खराब कर और नीचे की धारा प्रवाह व्यवस्थाओं को बाधित कर।
- **As multiple studies have shown, such interventions magnify risks in a context where climate change is already shrinking glaciers and destabilising mountain hydrology.** जैसा कि कई अध्ययनों ने दिखाया है, ऐसे हस्तक्षेप जलवायु परिवर्तन के संदर्भ में जोखिमों को बढ़ाते हैं जहां हिमनद पहले से ही सिकुड़ रहे हैं और पर्वतीय जलविज्ञान को अस्थिर कर रहे हैं।
- **The proposed highway is thus far more than an engineering project; it stands as a litmus test for environmental governance in J&K.** प्रस्तावित राजमार्ग इस प्रकार इंजीनियरिंग परियोजना से कहीं अधिक है; यह J&K में पर्यावरणीय शासन के लिए एक लिटमस टेस्ट के रूप में खड़ा है।
- **If executed without robust safeguards, it risks unleashing ecological and social costs that could outweigh its developmental benefits.** यदि मजबूत सुरक्षा उपायों के बिना निष्पादित किया गया, तो यह पारिस्थितिक और सामाजिक लागतों को छोड़ने का जोखिम उठाता है जो उसके विकासात्मक लाभों से अधिक हो सकती हैं।
- **Yet, if approached through integrated planning, inter-departmental cooperation, and community consultation, it could still evolve into a model of sustainable infrastructure in fragile mountain regions.** फिर भी, यदि एकीकृत योजना, अंतर-विभागीय सहयोग और समुदाय परामर्श के माध्यम से संपर्क किया गया, तो यह नाजुक पर्वतीय क्षेत्रों में टिकाऊ बुनियादी ढांचे का मॉडल बन सकता है।

Big Tech-led carbon removal credit need fuels supply crunch

GS III: Environment

NEWS ANALYSIS

Reuters
BELEM, BRAZIL

Surging demand for high-quality carbon removal credits from tech giants to offset their AI-driven emissions is helping fuel a shortage that experts say is exactly what is needed to spur investment in the nascent market. Heavy buying over the last two years by companies including Microsoft and Google made the credits nearly four times more expensive in 2024 than lower-priced credits pegged to forest-preservation projects.

Big Tech has collectively spent hundreds of millions of dollars since 2019, much of it in the last two years,

on durable carbon removals, those that capture and store carbon dioxide for an extended period, the credit experts say. Overall, \$10 billion has been spent in the spot market and longer-term offtake agreements combined, according to market tracker CDR.fyi.

Slow global warming
Scientists say carbon-removal projects are essential for the world to slow global warming by offsetting emissions from industries, such as power generation, that continue to use fossil fuels.

Credits linked to projects such as biochar, in which biomass is converted into a charcoal-like substance that locks in carbon, or direct air capture,



Credit to planet: Samples of micronised volcanic rock and a combination of organic biochar. REUTERS

are seen as providing more secure, long-term removal of carbon. Those linked to restoring degraded land are also valued highly. As tech companies expand data centers to power artificial intelligence, often using fossil fuels, their profits and greenhouse gas emissions are rising, underpinning demand for credits.

Many other companies were also leveraging AI to

expand their businesses and using some of the returns to buy credits, said Brennan Spellacy, CEO of climate tech firm Patch.

investing heavily, and the reason why these companies are performing well is AI. So AI's driving profit and profit's driving investment," Spellacy said on the sidelines of the COP30 climate talks in Brazil.

Eliminate emissions

The tech giants have pledged to eventually eliminate their emissions on a net basis. The United States, however, has pulled out of the 2015 Paris climate treaty under President Donald Trump.

"We send strong demand signals through long-term offtakes to unlock a virtuous cycle of innovation, financing, and deployment," a Microsoft spokesperson told Reuters. "By anchoring large-scale projects, we both drive

new supply while leaving headroom for other corporate buyers to enter," the spokesperson added. Google parent Alphabet declined to comment.

Buyers must settle

Credit supply has not kept pace with demand.

A third of requests to buy credits through the Patch platform were for biochar, yet it ultimately made up less than 20% of sales because of tight supply, Patch said.

Reforestation credits were requested 25% of the time, but sold 12% of the time.

"The desire for high quality is very real, and you can see it in the numbers. In 2024, there were 8 million tonnes of durable carbon removal pur-

chased, and so far this year, it's 25 million," said Lukas May, chief commercial officer at carbon registry Isometric.

"That is certainly being driven a lot by the big tech companies."

To date, less than 1 million tons' worth of durable carbon removal credits have been issued, CDR.fyi data shows, mostly from biochar projects.

Given the supply crunch, more companies are looking to enter offtake agreements, which should help expand supply by giving certainty of sales to developers, May added.

"At the end of the day, extra demand will drive extrasupply."

For some, the supply crunch solution is to generate your own credits.



Big Tech-led carbon removal credit need fuels supply crunch

बिग टेक-नेतृत्व वाली कार्बन रिमूवल क्रेडिट की आवश्यकता से आपूर्ति संकट बढ़ा

- Surging demand for **high-quality carbon removal credits** from tech giants to offset their **AI-driven emissions** is helping fuel a shortage that experts say is needed to spur investment in the nascent market.
टेक दिग्गजों द्वारा अपनी **AI-जनित उत्सर्जन** की भरपाई के लिए **उच्च-गुणवत्ता वाले कार्बन रिमूवल क्रेडिट** की बढ़ती मांग आपूर्ति की कमी को बढ़ा रही है, जिसे विशेषज्ञ इस उभरते बाज़ार में निवेश को बढ़ाने के लिए आवश्यक मानते हैं।
- Heavy buying over the last two years by companies including **Microsoft and Google** made the credits nearly **four times more expensive in 2024** than lower-priced forest-preservation credits.
पिछले दो वर्षों में **माइक्रोसॉफ्ट और गूगल** जैसी कंपनियों की भारी खरीदारी ने 2024 में इन क्रेडिट्स की कीमत को जंगल संरक्षण परियोजनाओं से जुड़े कम कीमत वाले क्रेडिट्स की तुलना में **लगभग चार गुना बढ़ा** दिया।
- Big Tech has collectively spent **hundreds of millions of dollars** since 2019 on **durable carbon removals** that capture and store CO₂ long-term.
2019 से बिग टेक ने **दीर्घकालिक कार्बन रिमूवल** पर **सैकड़ों मिलियन डॉलर** खर्च किए हैं, जो CO₂ को लंबे समय तक कैद और संग्रहित करते हैं।
- Overall, **\$10 billion** has been spent in the spot market and long-term offtake deals combined, according to **CDR.fyi**.
CDR.fyi के अनुसार, स्पॉट मार्केट और दीर्घकालिक ऑफ़टेक समझौतों में कुल मिलाकर **\$10 बिलियन** खर्च किए जा चुके हैं।



Slow global warming

वैश्विक तापमान वृद्धि को धीमा करना

- Scientists say carbon-removal projects are essential to **slow global warming** by offsetting emissions from fossil-fuel dependent industries.
वैज्ञानिकों का कहना है कि जीवाश्म ईंधन पर निर्भर उद्योगों के उत्सर्जन की भरपाई कर **वैश्विक तापमान वृद्धि को धीमा** करने के लिए कार्बन रिमूवल परियोजनाएँ आवश्यक हैं।
- Credits linked to **biochar, direct air capture, and restoring degraded land** are considered more secure and long-term.
बायोचार, डायरेक्ट एयर कैप्चर, और क्षतिग्रस्त भूमि पुनर्स्थापन से जुड़े क्रेडिट अधिक सुरक्षित और दीर्घकालिक माने जाते हैं।
- As tech companies expand **AI-powered data centers**, their **profits and emissions** are rising, increasing credit demand.
जैसे-जैसे टेक कंपनियाँ **AI-संचालित डेटा सेंटर** बढ़ा रही हैं, उनके **मुनाफ़े और उत्सर्जन** दोनों बढ़ रहे हैं, जिससे क्रेडिट की मांग भी बढ़ रही है।
- Many other companies are using AI to expand business and using returns to buy credits, said **Brennan Spellacy**, CEO of Patch.
ब्रेनन स्पेलैसी, CEO, Patch का कहना है कि कई अन्य कंपनियाँ भी AI से व्यवसाय बढ़ा रही हैं और मुनाफ़े से क्रेडिट खरीद रही हैं।

Eliminate emissions

उत्सर्जन समाप्त करने का लक्ष्य

- Tech giants have pledged to eventually eliminate net emissions.
टेक दिग्गजों ने भविष्य में नेट उत्सर्जन समाप्त करने का वादा किया है।
- The United States, however, has withdrawn from the **2015 Paris Climate Treaty** under President Trump.
हालाँकि अमेरिका राष्ट्रपति ट्रम्प के तहत **2015 पेरिस जलवायु संधि** से बाहर हो गया है।



- Microsoft said long-term offtakes help drive innovation, financing, deployment, and new supply while leaving room for other buyers.
माइक्रोसॉफ्ट ने कहा कि दीर्घकालिक ऑफ़टेक नवाचार, वित्तपोषण, तैनाती और नई आपूर्ति को बढ़ावा देते हैं तथा अन्य खरीदारों के लिए भी स्थान छोड़ते हैं।

Buyers must settle

खरीदारों को समायोजित होना पड़ेगा

- Credit supply has not kept pace with demand.
क्रेडिट की आपूर्ति मांग के अनुरूप नहीं बढ़ रही है।
- One-third of requests on Patch were for **biochar**, but tight supply meant it made up **less than 20%** of sales.
Patch पर एक-तिहाई माँग बायोचार के लिए थी, लेकिन सीमित आपूर्ति के कारण इसकी बिक्री **20% से कम** रही।
- Reforestation credits were requested **25%** of the time but sold only **12%**.
रीफ़ॉरेस्टेशन क्रेडिट्स की माँग **25%** थी, लेकिन बिक्री **12%** ही हुई।
- In 2024, **8 million tonnes** of durable carbon removal were purchased; this year so far it's **25 million**, said **Lukas May**, CCO, Isometric.
लुकास मे, CCO, Isometric के अनुसार, 2024 में **8 मिलियन टन** टिकाऊ कार्बन रिमूवल खरीदे गए; इस वर्ष अब तक **25 मिलियन**।
- To date, less than **1 million tons** of durable removal credits have been issued, mostly from biochar.
अब तक **1 मिलियन टन से कम** टिकाऊ कार्बन रिमूवल क्रेडिट जारी हुए हैं, जिनमें अधिकांश बायोचार से हैं।
- Given the crunch, companies are turning to **offtake agreements** to guarantee sales for developers and expand supply.
आपूर्ति संकट को देखते हुए कंपनियाँ डेवलपर्स को बिक्री की गारंटी देने और आपूर्ति बढ़ाने के लिए **ऑफ़टेक समझौतों** की ओर बढ़ रही हैं।
- “Extra demand will drive extra supply,” said May.
मे ने कहा, “अधिक मांग अतिरिक्त आपूर्ति लाएगी।”
- For some, the solution to the supply crunch is to **generate their own credits**.
कुछ कंपनियों के लिए समाधान है कि वे अपने **स्वयं के कार्बन क्रेडिट** उत्पन्न करें।

DM

19/11/2025



Indonesian Defence Minister to visit Delhi for talks on BrahMos

GS III: Defence System

Saurabh Trivedi

NEW DELHI

Indonesian Defence Minister Sjafrie Sjamsoeddin is scheduled to visit India in the last week of November for a bilateral meeting with Defence Minister Rajnath Singh in New Delhi.

The meeting is being viewed as a significant follow-up to the major defence agreement involving the BrahMos supersonic cruise missile, marking an important step forward in India's expanding defence export programme.

A senior defence official confirmed that the upcoming talks hold considerable importance, coming after a series of meetings and reciprocal visits by senior military officials from both nations. Indonesia has shown strong interest in procuring the BrahMos missile system.

The development came to light after Defence Minister Rajnath Singh recently revealed in Lucknow that Indonesia had formally placed a request for the purchase of the BrahMos system being manufactured at the new BrahMos Aerospace facility in the city.

On October 18, Mr. Singh and Uttar Pradesh Chief Minister Yogi Adityanath flagged off the first batch of



Sjafrie Sjamsoeddin

BrahMos missiles produced at the Lucknow unit. Officials noted that the Indonesia deal would be a major milestone for India's defence exports, showcasing the country's capability to supply combat-proven indigenous weapons.

Earlier, Chief of Defence Staff General Anil Chauhan met Minister Sjamsoeddin in Jakarta to discuss expanding bilateral defence cooperation.

'Global confidence'

Defence experts said BrahMos missiles used during Operation Sindoor to strike Pakistani airbases with full accuracy have enhanced global confidence in India's defence manufacturing.

The BrahMos missile has a range of over 290 km with a speed of Mach 2.8. It was jointly developed by India's Defence Research and Development Organisation, and Russia's NPO Mashinostroyeniya.

Indonesian Defence Minister to visit Delhi for talks on BrahMos ब्रहमोस पर वार्ता के लिए इंडोनेशियाई रक्षा मंत्री दिल्ली आएंगे

Indonesian Defence Minister **Sjafrie Sjamsoeddin** is scheduled to visit India in the last week of November for a bilateral meeting with Defence Minister **Rajnath Singh** in New Delhi.

इंडोनेशिया के रक्षा मंत्री **स्याफ्री स्यामसूदीन** नवंबर के अंतिम सप्ताह में भारत की यात्रा पर आने वाले हैं, जहाँ वे नई दिल्ली में रक्षा मंत्री **राजनाथ सिंह** के साथ द्विपक्षीय बैठक करेंगे।

The meeting is being viewed as a significant follow-up to the major defence agreement involving the **BrahMos supersonic cruise missile**, marking an important step forward in India's expanding **defence export programme**.

यह बैठक **ब्रहमोस सुपरसोनिक क्रूज मिसाइल** से जुड़े प्रमुख रक्षा समझौते की एक महत्वपूर्ण प्रगति मानी जा रही है, जो भारत के बढ़ते **रक्षा निर्यात कार्यक्रम** का अहम चरण है।

A senior defence official confirmed that the upcoming talks hold considerable importance, coming after a series of meetings and reciprocal visits by senior military officials from both nations.

एक वरिष्ठ रक्षा अधिकारी ने पुष्टि की कि आगामी वार्ता अत्यंत महत्वपूर्ण है, क्योंकि यह दोनों देशों के वरिष्ठ सैन्य अधिकारियों की कई बैठकों और पारस्परिक यात्राओं के बाद हो रही है।

Indonesia has shown strong interest in procuring the **BrahMos missile system**.

इंडोनेशिया ने **ब्रहमोस मिसाइल प्रणाली** खरीदने में गहरी रुचि दिखाई है।

The development came to light after Defence Minister Rajnath Singh recently revealed in Lucknow that Indonesia had formally placed a request for the purchase of the BrahMos system manufactured at the **new BrahMos Aerospace facility** in the city.

यह जानकारी तब सामने आई जब रक्षा मंत्री राजनाथ सिंह ने लखनऊ में बताया कि इंडोनेशिया ने शहर की **नई ब्रहमोस एयरोस्पेस फैक्ट्री** में बनी ब्रहमोस प्रणाली की खरीद के लिए औपचारिक अनुरोध किया है।

On October 18, Mr. Singh and Uttar Pradesh Chief Minister **Yogi Adityanath** flagged off the first batch of BrahMos missiles produced at the Lucknow unit.

18 अक्टूबर को श्री सिंह और उत्तर प्रदेश के मुख्यमंत्री **योगी**

आदित्यनाथ ने लखनऊ इकाई में बने ब्रहमोस मिसाइलों के पहले बैच को रवाना किया।

Officials noted that the Indonesia deal would be a major milestone for India's defence exports, showcasing the country's capability to supply **combat-proven indigenous weapons**.

अधिकारियों ने कहा कि इंडोनेशिया का यह सौदा भारत के रक्षा निर्यात के लिए एक बड़ा मील का पत्थर होगा, जो देश की **युद्ध-परीक्षित स्वदेशी हथियारों** की आपूर्ति क्षमता दर्शाएगा।

Earlier, Chief of Defence Staff General **Anil Chauhan** met Minister Sjamsoeddin in Jakarta to discuss expanding bilateral defence cooperation.



GS III: Trade Deficit

Excessive dependence

A structural shift in India's trade portfolio is essential

India's record goods trade deficit in October (\$41.68 billion) follows a sequential build-up from September (\$32.15 billion), reflecting a disturbing turn in its external trade landscape. The shock from the U.S.'s tariffs has been largely responsible – a full 50% levy that came into effect in August – at a time when the U.S. had become India's largest single export market (since about 2018-19). But the main cause of the 11.8% year-on-year (YoY) drop in goods exports to \$34.38 billion (\$38.98 billion in October 2024) and the precipitous rise in imports lies in a record surge in precious metal inflows. Gold imports nearly tripled from last October (\$4.92 billion) and inbound silver rose more than fivefold. This suggests that the bullion surge is not merely seasonal but also a hedge against growing economic uncertainty. The rupee's weakening from about ₹85.6 to a dollar in April to around ₹88.4 to a dollar in October, and the net foreign portfolio outflow in September (leading into a recovery in October) further corroborate the hedging. What is troubling about October's merchandise data is the steep fall in exports of labour-intensive sectors such as textiles and apparel – cotton yarn and handlooms 13.31%; man-made yarn 11.75%; readymade garments 12.88%, and engineering goods 16.71%. The U.S. has been the largest market for these sectors for some years now. Overall exports to the U.S. declined by 9% YoY in October.

The import surge in goods value is partly explained by the depreciating rupee but also strongly suggests the increased use of cheaper imported intermediate goods to keep finished exports competitive, rather than domestic sourcing. The detailed HS-chapter breakdown of imports by commodity and source country will elucidate this further. Meanwhile, the Centre has stepped in with export-promotion initiatives, for ₹25,060 crore over six years, and the Reserve Bank of India has announced relief measures for exporters hit by tariff headwinds. Nonetheless, it is too early to conclude that this shift is structural rather than an immediate reaction to a major external shock. Rerouting of exports, new market access and supply-chain realignment take months if not years. The record October deficit may yet prove to be a blip, particularly if the India-U.S. Bilateral Trade Agreement is concluded swiftly and tariffs are rolled back. The steep drop in Russian imports (-27.73%) and a concurrent rise in U.S. imports (13.89%), suggest an attempt to assuage American concerns of a widening trade deficit, and to reduce Russian crude inflows. Even if the overall deficit persists, despite a thaw in U.S. relations, that would only point to a structural shift in India's trade portfolio. While painful in the short term, such a shift may ultimately be desirable, as India's heavy dependence on the U.S. export market has now exposed it to both diplomatic and economic vulnerability.

- Gold imports nearly tripled from last October (\$4.92 billion) and inbound silver rose more than fivefold. सोना आयात पिछले अक्टूबर (\$4.92 बिलियन) से लगभग तिगुना हो गया और आने वाला चांदीपांच गुना से अधिक बढ़ गया।

इससे पहले, चीफ ऑफ डिफेंस स्टाफ जनरल अनिल चौहान ने जकार्ता में मंत्री स्यामसूहीन से मुलाकात की और द्विपक्षीय रक्षा सहयोग बढ़ाने पर चर्चा की।

'Global confidence'
'वैश्विक विश्वास'

• Defence experts said BrahMos missiles used during Operation Sindoor to strike Pakistani airbases with full accuracy have enhanced global confidence in India's defence manufacturing.

रक्षा विशेषज्ञों ने कहा कि ऑपरेशन सिंदूर के दौरान पाकिस्तानी एयरबेस पर पूरी सटीकता से वार करने के लिए उपयोग किए गए ब्रह्मोस मिसाइलों ने भारत के रक्षा निर्माण पर वैश्विक विश्वास बढ़ाया है।

• The BrahMos missile has a range of over 290 km with a speed of Mach 2.8.

ब्रह्मोस मिसाइल की मारक क्षमता 290 किमी से अधिक है और इसकी गति मैक 2.8 है।

• It was jointly developed by India's Defence Research and Development Organisation (DRDO) and Russia's NPO Mashinostroyeniya.

इसे भारत की रक्षा अनुसंधान एवं विकास संगठन (DRDO) और रूस की एनपीओ मशीनोस्ट्रोयेनीया ने संयुक्त रूप से विकसित किया है।

Excessive dependence
अत्यधिक निर्भरता

• A structural shift in India's trade portfolio is essential

भारत के व्यापार पोर्टफोलियो में एक संरचनात्मक बदलाव आवश्यक है

• India's record goods trade deficit in October (\$41.68 billion) follows a sequential build-up from September (\$32.15 billion), reflecting a disturbing turn in its external trade landscape. भारत का अक्टूबर में रिकॉर्ड माल व्यापार घाटा (\$41.68 बिलियन) सितंबर (\$32.15 बिलियन) से क्रमिक वृद्धि का अनुसरण करता है, जो इसके बाहरी व्यापार परिदृश्य में एक परेशान करने वाला मोड़ दर्शाता है।

• The shock from the U.S.'s tariffs has been largely responsible — a full 50% levy that came into effect in August — at a time when the U.S. had become India's largest single export market (since about 2018-19). अमेरिका के टैरिफ के झटके ने मुख्य रूप से जिम्मेदारी निभाई है — 50% पूर्ण शुल्क जो अगस्त में प्रभावी हुआ — उस समय जब अमेरिका भारत का सबसे बड़ा एकल निर्यात बाजार बन चुका था (2018-19 से लगभग)।

• But the main cause of the 11.8% year-on-year (YoY) drop in goods exports to \$34.38 billion (\$38.98 billion in October 2024) and the precipitous rise in imports lies in a record surge in precious metal inflows. लेकिन माल निर्यात में 11.8% साल-दर-साल (YoY) गिरावट के मुख्य कारण \$34.38 बिलियन तक (\$38.98 बिलियन अक्टूबर 2024 में) और आयात में तेज वृद्धि कीमती धातुओं के रिकॉर्ड उछाल में निहित है।



- This suggests that the bullion surge is not merely seasonal but also a hedge against growing economic uncertainty. यह सुझाव देता है कि बुलियन उछाल केवल मौसमी नहीं बल्कि बढ़ती आर्थिक अनिश्चितता के खिलाफ एक हेज भी है।
- The rupee's weakening from about ₹85.6 to a dollar in April to around ₹88.4 to a dollar in October, and the net foreign portfolio outflow in September (leading into a recovery in October) further corroborate the hedging. रुपया का कमजोर होना अप्रैल में डॉलर प्रति लगभग ₹85.6 से अक्टूबर में डॉलर प्रति लगभग ₹88.4 तक, और सितंबर में शुद्ध विदेशी पोर्टफोलियो बहिर्वाह (जो अक्टूबर में सुधार की ओर ले जाता है) हेजिंग की ओर पुष्टि करता है।
- What is troubling about October's merchandise data is the steep fall in exports of labour-intensive sectors such as textiles and apparel — cotton yarn and handlooms 13.31%; man-made yarn 11.75%; readymade garments 12.88%, and engineering goods 16.71%. अक्टूबर के माल डेटा में परेशान करने वाली बात श्रम-गहन क्षेत्रों जैसे टेक्सटाइल्स और परिधान के निर्यात में तेज गिरावट है — कॉटन यार्न और हथकरघा 13.31%; मैन-मेड यार्न 11.75%; रेडीमेड गारमेंट्स 12.88%, और इंजीनियरिंग गुड्स 16.71%।
- The U.S. has been the largest market for these sectors for some years now. अमेरिका इन क्षेत्रों के लिए कुछ वर्षों से सबसे बड़ा बाजार रहा है।
- Overall exports to the U.S. declined by 9% YoY in October. अक्टूबर में अमेरिका को कुल निर्यात 9% YoY गिर गया।
- The import surge in goods value is partly explained by the depreciating rupee but also strongly suggests the increased use of cheaper imported intermediate goods to keep finished exports competitive, rather than domestic sourcing. माल मूल्य में आयात उछाल आंशिक रूप से कमजोर रुपया से समझाया जाता है लेकिन यह भी दृढ़ता से सुझाव देता है कि सस्ते आयातित मध्यवर्ती वस्तुओं का बढ़ा उपयोग तैयार निर्यात को प्रतिस्पर्धी रखने के लिए, घरेलू सोर्सिंग के बजाय।
- The detailed HS-chapter breakdown of imports by commodity and source country will elucidate this further. वस्तु और स्रोत देश के अनुसार आयात का विस्तृत HS-चैप्टर ब्रेकडाउन इसे और स्पष्ट करेगा।
- Meanwhile, the Centre has stepped in with export-promotion initiatives, for ₹25,060 crore over six years, and the Reserve Bank of India has announced relief measures for exporters hit by tariff headwinds. इस बीच, केंद्र ने निर्यात-प्रोत्साहन पहलों के साथ कदम उठाया है, 6 वर्षों में ₹25,060 करोड़ के लिए, और रिजर्व बैंक ऑफ इंडिया ने टैरिफ हेडविंड्स से प्रभावित निर्यातकों के लिए राहत उपायों की घोषणा की है।
- Nonetheless, it is too early to conclude that this shift is structural rather than an immediate reaction to a major external shock. फिर भी, यह निष्कर्ष निकालना जल्दबाजी होगी कि यह बदलाव संरचनात्मक है न कि किसी प्रमुख बाहरी झटके की तत्काल प्रतिक्रिया।
- Rerouting of exports, new market access and supply-chain realignment take months if not years. निर्यात का पुनर्निर्देशन, नया बाजार पहुंच और आपूर्ति-श्रृंखला पुनर्संरक्षण महीनों लेते हैं यदि वर्ष न हों।
- The record October deficit may yet prove to be a blip, particularly if the India–U.S. Bilateral Trade Agreement is concluded swiftly and tariffs are rolled back. रिकॉर्ड अक्टूबर घाटा अभी भी एक क्षणिक साबित हो सकता है, विशेष रूप से यदि भारत-यू.एस. द्विपक्षीय व्यापार समझौता शीघ्र समाप्त हो और टैरिफ वापस लिए जाएं।
- The steep drop in Russian imports (-27.73%) and a concurrent rise in U.S. imports (13.89%), suggest an attempt to assuage American concerns of a widening trade deficit, and to reduce Russian crude inflows. रूसी आयात में तेज गिरावट (-27.73%) और अमेरिकी आयात में समवर्ती वृद्धि (13.89%), व्यापार घाटे के बढ़ने की अमेरिकी चिंताओं को शांत करने का प्रयास सुझाते हैं, और रूसी कच्चा तेल प्रवाह को कम करने का।
- Even if the overall deficit persists, despite a thaw in U.S. relations, that would only point to a structural shift in India's trade portfolio. भले ही कुल घाटा बना रहे, अमेरिकी संबंधों में गर्मजोशी के बावजूद, यह केवल भारत के व्यापार पोर्टफोलियो में संरचनात्मक बदलाव की ओर इशारा करेगा।
- While painful in the short term, such a shift may ultimately be desirable, as India's heavy dependence on the U.S. export market has now exposed it to both diplomatic and economic vulnerability. हालांकि अल्पकाल में दर्दनाक, ऐसा बदलाव अंततः वांछनीय हो सकता है,



क्योंकि अमेरिकी निर्यात बाजार पर भारत की भारी निर्भरता ने अब इसे कूटनीतिक और आर्थिक दोनों कमजोरियों को उजागर कर दिया है।

IS

19/11/2025

Cyber-slavery 'mastermind' arrested in Gujarat गुजरात में साइबर-गुलामी का 'मास्टरमाइंड' गिरफ्तार

- The **Gujarat Cyber Centre of Excellence** has busted an international cyber-slavery and human trafficking network with the arrest of its alleged kingpin, **Nilesh Purohit alias Neel**.
गुजरात साइबर सेंटर ऑफ एक्सीलेंस ने अंतरराष्ट्रीय साइबर-गुलामी और मानव तस्करी नेटवर्क का भंडाफोड़ किया है और इसके कथित सरगना **नीलेश पुरोहित उर्फ नील** को गिरफ्तार किया है।
- Five of his associates, including a couple, have also been taken into custody.
उसके पांच सहयोगियों, जिनमें एक दंपति भी शामिल है, को भी हिरासत में लिया गया है।
- The syndicate, operating from **Southeast Asian countries**, targeted Indian citizens, including many from Gujarat, by luring them with fraudulent job offers.
यह सिंडिकेट **दक्षिण-पूर्व एशियाई देशों** से संचालित होकर भारतीय नागरिकों को, जिनमें गुजरात के कई लोग शामिल हैं, धोखाधड़ी वाले नौकरी प्रस्ताव देकर निशाना बनाता था।
- Deputy Chief Minister **Harsh Sanghvi** said the investigation revealed that Purohit headed a **global syndicate** with more than **126 sub-agents**.
उपमुख्यमंत्री **हर्ष संघवी** ने कहा कि जांच से पता चला है कि पुरोहित **126 से अधिक सब-एजेंट्स** वाले एक वैश्विक सिंडिकेट का प्रमुख था।

Cyber-slavery 'mastermind' arrested in Gujarat

GS III: Internal Security

The Hindu Bureau
AHMEDABAD

The Gujarat Cyber Centre of Excellence has busted an international cyber-slavery and human trafficking network with the arrest of its alleged kingpin, Nilesh Purohit alias Neel. Five of his associates, including a couple, have also been taken into custody. The syndicate, operating from Southeast Asian countries, targeted Indian citizens, including many from Gujarat, by luring them with fraudulent job offers.

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DAILY CURRENT AFFAIRS (GS Paper IV and Essay)	
TOPICS COVERED	19_11_2025
	Essay
1.	Unpacking the global 'happiness' rankings वैश्विक 'खुशी' रैंकिंग को समझना

Unpacking the global 'happiness' rankings

GS IV: Ethics

MOB

Why is Finland the happiest country in the world for the eighth year in a row while India languishes at 118? How can Pakistan, which is struggling with political instability and recurring International Monetary Fund (IMF) bailouts score higher than India, the world's fastest-growing major economy? What does this really say about how we define "happiness"?

The World Happiness Report 2025, by the Wellbeing Research Centre at Oxford, again places Finland, Denmark, Iceland and Sweden at the top. India's score is 4.389 of 10, averaging 124 over the years; Pakistan is 109. The contrast seems puzzling against the economic and social realities of both nations.

India, with a \$3.7 trillion GDP, is the world's fifth-largest economy; Pakistan's \$375 billion GDP is barely 10% of that. India's digital economy is booming, and its infrastructure is expanding, whereas Pakistan survives on repeated bailouts. Yet, Pakistan appears "happier"?

Is happiness an economic measure, a perceptual one, or a proxy for something else?

The mirage of metrics

The report relies on the Gallup World Poll's Cantril Ladder, where people rate their lives from 0 to 10, linked with six variables – GDP per capita, social support, life expectancy, freedom, generosity and corruption perception. But perceptions are slippery.

Societies with low expectations often report higher happiness because people adapt to hardship. In vibrant democracies such as India, rising aspirations and constant media scrutiny can lower perceived satisfaction even as well-being improves. When citizens expect better governance or cleaner cities, dissatisfaction reflects higher expectations, not misery.

That paradox explains why the United States has fallen to 24 despite record wealth, while the Nordic nations with high taxes but deep social trust dominate.

The report itself admits that "belief in community kindness" and social trust predict

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Dissatisfaction, for instance, could reflect higher expectations, and not misery

happiness better than income.

India's challenge, then, is not growth but connection. Nearly 19% of young adults globally say they have no one to rely on – up 39% since 2006. With migration and digital life reshaping relationships, Indians too face shrinking real-world networks and expanding virtual ones – prosperity without proximity.

The politics of perception

Critics note that global indices rest on perception-based biases. A 2022 paper by the Economic Advisory Council to the Prime Minister (Sanjeev Sanyal and Aakanksha Arora) showed that indices such as Freedom House and V-Dem depend on small, opaque pools of western "experts". Their subjective views skew results.

A one-party state may appear freer simply because dissent is absent; media-controlled regimes look "stable" because citizens voice fewer complaints. Democracies, by contrast, are penalised for openness. The World Happiness Report risks repeating that error – valuing calm conformity over democratic cacophony. India's low score may reflect self-critical awareness – a maturing democracy unwilling to be complacent.

India's rank has swung between 94th and 144th in a decade. The best phase came in 2022 with post-COVID-19 pandemic recovery and welfare programmes such as Pradhan Mantri Garib Kalyan Yojana. The worst was in 2012 amid corruption scandals and slowdown. But happiness rarely tracks fiscal performance. Studies show that social trust, fairness and community matter far more.

In Finland, people believe a lost wallet will be returned – a proxy for institutional trust. In India, governance unevenness erodes that confidence, though local and familial trust remain strong. The COVID-19 lockdown exposed this: millions returned to villages not only for work loss but because community bonds offered the security absent in cities. Such informal trust, ignored by global metrics, sustains resilience.

The report's behavioural framework also carries the WEIRD bias – Western, Educated,

Industrialised, Rich and Democratic. It privileges institutional trust that is typical of individualistic societies and overlooks collective trust networks in countries such as India, where family and community are the real safety nets.

Even so, institutional trust is evolving. Campaigns around mental health, workplace wellbeing and inclusion mark a cultural shift. Programmes such as Tele-MANAS (Tele Mental Health Assistance and Networking Across States) and Mind India place emotional resilience on the policy map. Happiness, once dismissed as a luxury, is now a governance concern.

Aspirations to empathy

To climb the happiness ladder, India must pair economic ambition with empathy infrastructure – investing not only in GDP but also in GNH (Gross National Happiness) through three pathways. First, rebuild social capital. Create community spaces, shared meals and inter-generational ties. The report finds that household size and belief in community kindness significantly raise happiness.

Second, restore institutional trust. Simplify citizen-state interactions. When public services – from ration cards to railway tickets – work transparently, trust follows.

Third, recognise mental health as economic policy. Productivity gains mirror psychological wellbeing. The World Health Organization (WHO) estimates that every \$1 spent on mental health yields \$4 in returns – an investment no economy should ignore. As *The Pursuit of Happiness* reminds us, happiness is not something we possess. It is something we pursue. India's restlessness – its debates, innovations and demands for better lives – may be the clearest sign of wellbeing. Less satisfaction does not mean unhappiness. It signals ambition.

If rank 118 means that Indians still seek cleaner air, fairer governance and fuller lives, perhaps the nation is not unhappy but just unfinished, still chasing a truer idea of happiness.

The views expressed are personal

Unpacking the global 'happiness' rankings वैश्विक 'खुशी' रैंकिंग को समझना

- **Why is Finland the happiest country in the world for the eighth year in a row while India languishes at 118?**
फिनलैंड आठवें साल लगातार दुनिया का सबसे खुशहाल देश क्यों है जबकि भारत 118 पर ठहरा हुआ है?
- **How can Pakistan, which is struggling with political instability and recurring International Monetary Fund (IMF) bailouts score higher than India, the world's fastest-growing major economy?**
पाकिस्तान, जो राजनीतिक अस्थिरता और बार-बार अंतरराष्ट्रीय मुद्रा कोष (IMF) के बेलआउट से जूझ रहा है, दुनिया की सबसे तेज बढ़ती प्रमुख अर्थव्यवस्था भारत से ऊपर कैसे स्कोर कर सकता है?



- What does this really say about how we define “happiness”?
यह वास्तव में “खुशी” को हम कैसे परिभाषित करते हैं उसके बारे में क्या कहता है?
- **The World Happiness Report 2025, by the Wellbeing Research Centre at Oxford, again places Finland, Denmark, Iceland and Sweden at the top.**
वर्ल्ड हैप्पीनेस रिपोर्ट 2025, ऑक्सफोर्ड के वेलबीइंग रिसर्च सेंटर द्वारा, फिर से फिनलैंड, डेनमार्क, आइसलैंड और स्वीडन को शीर्ष पर रखता है।
- **India’s score is 4.389 of 10, averaging 124 over the years; Pakistan is 109.**
भारत का स्कोर 10 में से 4.389 है, वर्षों के औसत पर 124; पाकिस्तान 109 पर है।
- **The contrast seems puzzling against the economic and social realities of both nations.**
दोनों देशों की आर्थिक और सामाजिक वास्तविकताओं के मुकाबले यह विपरीतता भ्रमित करने वाली लगती है।
- **India, with a \$3.7 trillion GDP, is the world’s fifth-largest economy; Pakistan’s \$375 billion GDP is barely 10% of that.**
\$3.7 ट्रिलियन जीडीपी वाले भारत, दुनिया की पांचवीं सबसे बड़ी अर्थव्यवस्था है; पाकिस्तान की \$375 बिलियन जीडीपी मुश्किल से उसका 10% है।
- **India’s digital economy is booming, and its infrastructure is expanding, whereas Pakistan survives on repeated bailouts.**
भारत की डिजिटल अर्थव्यवस्था उछाल पर है, और उसका बुनियादी ढांचा विस्तार कर रहा है, जबकि पाकिस्तान बार-बार बेलआउट पर टिका है।
- **Yet, Pakistan appears “happier”?**
फिर भी, पाकिस्तान “खुशहाल” लगता है?
- **Is happiness an economic measure, a perceptual one, or a proxy for something else?**
क्या खुशी एक आर्थिक माप है, धारणात्मक एक, या किसी अन्य चीज का प्रॉक्सी?

The mirage of metrics मेट्रिक्स का भ्रम

- **The report relies on the Gallup World Poll’s Cantril Ladder, where people rate their lives from 0 to 10, linked with six variables — GDP per capita, social support, life expectancy, freedom, generosity and corruption perception.** रिपोर्ट गैलप वर्ल्ड पोल के कैंट्रिल लैडर पर निर्भर करती है, जहां लोग अपनी जिंदगी को 0 से 10 तक रेट करते हैं, जो छह चरों से जुड़े हैं — प्रति व्यक्ति जीडीपी, सामाजिक समर्थन, जीवन प्रत्याशा, स्वतंत्रता, उदारता और भ्रष्टाचार धारणा।
- **But perceptions are slippery.** लेकिन धारणाएं फिसलन भरी हैं।
- **Societies with low expectations often report higher happiness because people adapt to hardship.**
कम अपेक्षाओं वाले समाज अक्सर अधिक खुशी की रिपोर्ट करते हैं क्योंकि लोग कठिनाई के अनुकूलन कर लेते हैं।
- **In vibrant democracies such as India, rising aspirations and constant media scrutiny can lower perceived satisfaction even as well-being improves.**
जीवंत लोकतंत्रों जैसे भारत में, बढ़ती आकांक्षाएं और निरंतर मीडिया जांच कल्याण में सुधार के बावजूद धारणात्मक संतुष्टि को कम कर सकती हैं।
- **When citizens expect better governance or cleaner cities, dissatisfaction reflects higher expectations, not misery.**
जब नागरिक बेहतर शासन या साफ-सुथरे शहरों की अपेक्षा करते हैं, असंतोष उच्च अपेक्षाओं को दर्शाता है, न कि दुख को।
- **That paradox explains why the United States has fallen to 24 despite record wealth, while the Nordic nations with high taxes but deep social trust dominate.**
वह विरोधाभास समझाता है कि क्यों संयुक्त राज्य अमेरिका रिकॉर्ड धन के बावजूद 24 पर गिर गया है, जबकि उच्च करों वाले लेकिन गहरे सामाजिक विश्वास वाले नॉर्डिक राष्ट्र हावी हैं।
- **The report itself admits that “belief in community kindness” and social trust predict happiness better than income.**
रिपोर्ट खुद स्वीकार करती है कि “समुदाय की दयालुता में विश्वास” और सामाजिक विश्वास आय से बेहतर खुशी की भविष्यवाणी करते हैं।
- **India’s challenge, then, is not growth but connection.**
भारत की चुनौती, तो, विकास नहीं बल्कि संबंध है।



- **Nearly 19% of young adults globally say they have no one to rely on — up 39% since 2006.**
वैश्विक स्तर पर लगभग 19% युवा वयस्क कहते हैं कि उनके पास भरोसा करने वाला कोई नहीं है — 2006 से 39% की वृद्धि।
- **With migration and digital life reshaping relationships, Indians too face shrinking real-world networks and expanding virtual ones — prosperity without proximity.**
प्रवास और डिजिटल जीवन से संबंधों के पुनर्गठन के साथ, भारतीय भी सिकुड़ते वास्तविक दुनिया के नेटवर्क और विस्तारित आभासी वाले का सामना कर रहे हैं — निकटता के बिना समृद्धि।

The politics of perception धारणा की राजनीति

- **Critics note that global indices rest on perception-based biases.**
आलोचक नोट करते हैं कि वैश्विक सूचकांक धारणा-आधारित पूर्वाग्रहों पर टिके हैं।
- **A 2022 paper by the Economic Advisory Council to the Prime Minister (Sanjeev Sanyal and Aakanksha Arora) showed that indices such as Freedom House and V-Dem depend on small, opaque pools of western “experts”.**
प्रधानमंत्री के आर्थिक सलाहकार परिषद (संजीव सान्याल और आकांक्षा अरोड़ा) का 2022 का पेपर दिखाता है कि फ्रीडम हाउस और V-डेम जैसे सूचकांक छोटे, अपारदर्शी पूल के पश्चिमी “विशेषज्ञों” पर निर्भर हैं।
- **Their subjective views skew results.**
उनकी व्यक्तिपरक दृष्टिकोण परिणामों को विकृत करते हैं।
- **A one-party state may appear freer simply because dissent is absent; media-controlled regimes look “stable” because citizens voice fewer complaints.**
एक एक-पक्षीय राज्य सिर्फ इसलिए अधिक स्वतंत्र लग सकता है क्योंकि असहमति अनुपस्थित है; मीडिया-नियंत्रित शासन “स्थिर” लगते हैं क्योंकि नागरिक कम शिकायतें व्यक्त करते हैं।
- **Democracies, by contrast, are penalised for openness.**
इसके विपरीत, लोकतंत्र खुलापन के लिए दंडित होते हैं।
- **The World Happiness Report risks repeating that error — valuing calm conformity over democratic cacophony.**
वर्ल्ड हैप्पीनेस रिपोर्ट उस त्रुटि को दोहराने का जोखिम लेती है — लोकतांत्रिक शोरगुल पर शांत अनुरूपता को महत्व देकर।
- **India’s low score may reflect self-critical awareness — a maturing democracy unwilling to be complacent.**
भारत का निम्न स्कोर आत्म-आलोचनात्मक जागरूकता को प्रतिबिंबित कर सकता है — एक परिपक्व लोकतंत्र जो complacent होने को तैयार नहीं।
- **India’s rank has swung between 94th and 144th in a decade.**
भारत की रैंक एक दशक में 94वें और 144वें के बीच झूलती रही है।
- **The best phase came in 2022 with post-COVID-19 pandemic recovery and welfare programmes such as Pradhan Mantri Garib Kalyan Yojana.**
सबसे अच्छा चरण 2022 में आया कोविड-19 महामारी के बाद पुनर्बहाली और कल्याण कार्यक्रमों जैसे प्रधानमंत्री गरीब कल्याण योजना के साथ।
- **The worst was in 2012 amid corruption scandals and slowdown.** सबसे खराब 2012 में था भ्रष्टाचार घोटालों और मंदी के बीच।
- **But happiness rarely tracks fiscal performance.** लेकिन खुशी शायद ही वित्तीय प्रदर्शन को ट्रैक करती है।
- **Studies show that social trust, fairness and community matter far more.** अध्ययनों से पता चलता है कि सामाजिक विश्वास, निष्पक्षता और समुदाय आय से कहीं अधिक मायने रखते हैं।
- **In Finland, people believe a lost wallet will be returned — a proxy for institutional trust.**
फिनलैंड में, लोग मानते हैं कि खोया हुआ बटुआ लौटा दिया जाएगा — संस्थागत विश्वास का एक प्रॉक्सी।
- **In India, governance unevenness erodes that confidence, though local and familial trust remain strong.**
भारत में, शासन की असमानता उस विश्वास को क्षीण करती है, हालांकि स्थानीय और पारिवारिक विश्वास मजबूत बने रहते हैं।
- **The COVID-19 lockdown exposed this: millions returned to villages not only for work loss but because community bonds offered the security absent in cities.**



कोविड-19 लॉकडाउन ने इसे उजागर किया: लाखों गांवों को लौटे न केवल नौकरी हानि के लिए बल्कि क्योंकि समुदाय बंधन शहरों में अनुपस्थित सुरक्षा प्रदान करते थे।

- **Such informal trust, ignored by global metrics, sustains resilience.**
वैश्विक मेट्रिक्स द्वारा अनदेखा किया गया ऐसा अनौपचारिक विश्वास लचीलापन बनाए रखता है।
- **The report's behavioural framework also carries the WEIRD bias — Western, Educated, Industrialised, Rich and Democratic.**
रिपोर्ट का व्यवहारिक ढांचा भी **WEIRD पूर्वाग्रह** ले जाता है — पश्चिमी, शिक्षित, औद्योगिकृत, अमीर और लोकतांत्रिक।
- **It privileges institutional trust that is typical of individualistic societies and overlooks collective trust networks in countries such as India, where family and community are the real safety nets.**
यह व्यक्तिवादी समाजों में विशिष्ट संस्थागत विश्वास को विशेषाधिकार देता है और **भारत** जैसे देशों में सामूहिक विश्वास नेटवर्क को नजरअंदाज करता है, जहां परिवार और समुदाय वास्तविक सुरक्षा जाल हैं।
- **Even so, institutional trust is evolving.**
फिर भी, संस्थागत विश्वास विकसित हो रहा है।
- **Campaigns around mental health, workplace wellbeing and inclusion mark a cultural shift.**
मानसिक स्वास्थ्य, कार्यस्थल कल्याण और समावेशन के इर्द-गिर्द अभियान एक सांस्कृतिक बदलाव को चिह्नित करते हैं।
- **Programmes such as Tele-MANAS (Tele Mental Health Assistance and Networking Across States) and Mind India place emotional resilience on the policy map.**
कार्यक्रम जैसे **टेली-माणस (टेली मेंटल हेल्थ असिस्टेंस एंड नेटवर्किंग एक्रॉस स्टेट्स)** और **माइंड इंडिया** भावनात्मक लचीलापन को नीति मानचित्र पर रखते हैं।
- **Happiness, once dismissed as a luxury, is now a governance concern.**
खुशी, जो एक बार विलासिता के रूप में खारिज की जाती थी, अब शासन चिंता है।

Aspirations to empathy

सहानुभूति की आकांक्षाएं

- **To climb the happiness ladder, India must pair economic ambition with empathy infrastructure — investing not only in GDP but also in GNH (Gross National Happiness) through three pathways.**
खुशी सीढ़ी चढ़ने के लिए, **भारत** को आर्थिक महत्वाकांक्षा को सहानुभूति बुनियादी ढांचे के साथ जोड़ना चाहिए — न केवल **जीडीपी** में बल्कि **जीएनएच (ग्रॉस नेशनल हैप्पीनेस)** में भी निवेश तीन मार्गों के माध्यम से।
- **First, rebuild social capital.**
पहला, सामाजिक पूंजी का पुनर्निर्माण।
- **Create community spaces, shared meals and inter-generational ties.**
समुदाय स्थानों, साझा भोजन और अंतर-पीढ़ीगत बंधनों का निर्माण।
- **The report finds that household size and belief in community kindness significantly raise happiness.**
रिपोर्ट पाती है कि घरेलू आकार और समुदाय दयालुता में विश्वास महत्वपूर्ण रूप से खुशी बढ़ाते हैं।
- **Second, restore institutional trust.**
दूसरा, संस्थागत विश्वास बहाल करें।
- **Simplify citizen-state interactions.**
नागरिक-राज्य अंतर्क्रियाओं को सरल बनाएं।
- **When public services — from ration cards to railway tickets — work transparently, trust follows.**
जब सार्वजनिक सेवाएं — राशन कार्ड से रेलवे टिकट तक — पारदर्शी रूप से काम करती हैं, विश्वास अनुसरण करता है।
- **Third, recognise mental health as economic policy.**
तीसरा, मानसिक स्वास्थ्य को आर्थिक नीति के रूप में मान्यता दें।
- **Productivity gains mirror psychological wellbeing.**
उत्पादकता लाभ मनोवैज्ञानिक कल्याण को प्रतिबिंबित करते हैं।



- The World Health Organization (WHO) estimates that every \$1 spent on mental health yields \$4 in returns — an investment no economy should ignore.
विश्व स्वास्थ्य संगठन (WHO) का अनुमान है कि मानसिक स्वास्थ्य पर हर \$1 खर्च \$4 प्रतिफल देता है — एक निवेश जिसे कोई अर्थव्यवस्था नजरअंदाज नहीं करनी चाहिए।
- As The Pursuit of Happiness reminds us, happiness is not something we possess.
जैसा कि द पर्स्यूट ऑफ हैप्पीनेस हमें याद दिलाता है, खुशी वह चीज नहीं है जो हम रखते हैं।
- It is something we pursue.
यह वह चीज है जो हम पीछा करते हैं।
- India's restlessness — its debates, innovations and demands for better lives — may be the clearest sign of wellbeing.
भारत की बेचैनी — उसके बहर्से, नवाचार और बेहतर जीवन की मांगें — कल्याण का सबसे स्पष्ट संकेत हो सकती हैं।
- Less satisfaction does not mean unhappiness.
कम संतुष्टि का मतलब असंतोष नहीं।
- It signals ambition.
यह महत्वाकांक्षा का संकेत देता है।
- If rank 118 means that Indians still seek cleaner air, fairer governance and fuller lives, perhaps the nation is not unhappy but just unfinished, still chasing a truer idea of happiness.
यदि रैंक 118 का मतलब है कि भारतीय अभी भी साफ हवा, निष्पक्ष शासन और पूर्ण जीवन की तलाश कर रहे हैं, तो शायद राष्ट्र असंतुष्ट नहीं बल्कि अधूरा है, अभी भी सच्ची खुशी के विचार का पीछा कर रहा है।

PATRIOTICIAS